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NOTHING appears so fully to occupy the attention of our horticultural public, at the present moment, as the culture of FRUIT TREES. Our table is loaded with inquiries, propositions and suggestions,—all relating to this subject. Fruit gardens and orchards, of all descriptions, from acres of strawberries, raspberries and cranberries, to hundreds and thousands of acres of peaches, apples and pears, have been planted from Maine to Texas, within the last year; and thousands of acres more will be planted the coming season.

There are many who think fruit-growing will be "overdone." They point to particular seasons, when the markets have been glutted with poor peaches, and poorer apples, as a proof that it is unwise to plant more trees. But they forget that these occasional excesses in over-production, are the very effect of large previous profits. Messrs. REYBOLD, the great Delaware peach-growers, for instance, make $10,000 in a single season by their crop of peaches. This immediately induces hundreds to plant large tracts entirely with peaches, as a speculative investment; and for two or three years the two markets of Philadelphia and New-York, at which these speculative growers aim, are deluged with fruit. What is the result? The regular growers make very little profits, and the speculative growers none at all. A couple of seasons of this kind of disappointment, is enough for the latter. They abandon their scheme, their orchards go down, and the price of peaches rises again to a fair and remunerative profit.

It may always be laid down as a safe proposition, that the market will never be overstocked with really fine fruit. Three-fourths of all the farmers, who grow fruit for market, send it to market in such indifferent order that it brings half price. The consequence is, that the careful growers get double and treble profits. When apples from western New-York, are so abundant in New-York market as to be worth only a dollar and a quarter per barrel, the apples of the Pelham farm,—several thousand barrels in a season,—command readily three to four dollars a barrel. When peaches are so abundant as to be worth only 50 cents a basket, fine samples of Crawford's Late, or Old Mixons, bring two dollars a bushel. What is the inference? Plainly, that if it is worth while to grow fruit for market, it is best worth while to grow only the best, and to grow it in the superior manner. Ten dollars an acre will often cover the cost of superior cultivation, while

the difference in the value of the crop may be an hundred dollars.

What then is the secret of good cultivation? What steps must be taken to ensure success, either to him who wishes fine fruit for home consumption, or regular and abundant crops for market?

Such is the substance of the numerous queries to which we have alluded; and we shall throw out a few suggestions to meet them.

The first secret of success, is to plant only the best sorts.

This would appear to be a matter as plain as a pike-staff; and yet, there are very few planters who carefully attend to it. There is such a passion for novelty and variety in the minds of most men, that they are not content with what is really *known* to be excellent. They must try everything that is *said* to be *better* than excellent. Hence, more than half our fruit gardens are filled up with trashy trees, that have no other merit than high sounding names. Hence, no one is satisfied with twenty pears, though this may comprise all those of the very finest quality. They must have an hundred, at least; and the consequence is that, at last, they gather five bushels of most indifferent fruit to a peck of the finest quality, when they might have gathered the latter only. But only time and trial will cure this mania for making every private orchard and garden a pomological specimen ground. The feeling is so rife at present, that a writer, or a society, that recommends a list of only a dozen or two fruits of each sort, is looked upon as behind the age. Now the real truth is just this: that when a fruit garden contains the Green Gage and the Jefferson plum, the Seckel and the White Doyenné pear, the Early Harvest and the Newtown Pippin apple, the George the Fourth and the Grosse Mignonne peach, it contains the concentrated excellence of a catalogue of a thousand varieties. The question, therefore, after this, is not how to get *better* sorts, but how to get a sufficient number of other fine sorts, to make out the season from early to late; and having done this, we think it far better to multiply twice, ten, or twenty times, really excellent sorts, of established reputation, than to plant all sorts of novelties in an orchard or fruit garden where enjoyment or profit, and not curiosity, is the object in view. Zealous amateurs are now abundant, who are engaged, in a most praiseworthy manner, in importing, collecting, and testing everything that can be heard of. There is a great interest and pleasure in this, as we have satisfied ourselves by years of trial; but it is a vast waste of time, money and ground, for those who only want a supply of the finest fruits, to be ransacking all the new catalogues for "eminent varieties." Let them find out what are ten of the *best* sorts of any such fruits as the apple and pear, and plant those ten sorts till their grounds are filled, rather than hunt for fifty or an hundred varieties.

There is something very fascinating in a name. It appears to be very hard for a novice, who is making out his order from a grand catalogue, to give the cold shoulder to Duchesses, Kings, and Princes Royal, and order a tree, with such a plain looking name as the Dix, or the Heathcot. That huge, coarse apple, the Gloria Mundi, (glory of the world,) has owed its existence, in hundreds of gardens, solely to its superb title; and the "Green Sugar of Hoyerswerda," has disappointed, in its treacherous, rotten flavor, dozens who had prepared their mouths for something akin to genuine nectar and ambrosia. Nay, a friend of ours, who planted a tree of the "Great Citron of Bohemia," assured us that he ex-

pected to eat something very nearly akin to the richest bride's cake!

The second secret, is to plant them upon the right soil, well prepared.

So much has been written on the proper soil, for various fruit trees, that we will not go over the subject again here. We may, however, remark that there are two trees not yet well understood, as regards the most suitable soil for them.

These are the pear and the peach. We think the pear cannot, unless with very rare exceptions, be successfully grown in any soil that has been long cultivated, without first restoring to that soil the potash, phosphate, and lime, that have been taken from it by continuous cropping. And, with very rare exceptions, we think it will be found that, in our dry climate, it is only upon naturally deep soils, or where the subsoil has been broken up, so as to form a soil 18 inches in depth, that these trees will be uniformly healthy and productive.*

It seems to us that there is still a prevalent error, regarding the best soil for the peach. The impression prevails, that the peach is finest on light sandy soils. It is quite true that the growth of the tree is rapid, and its culture easiest, upon such soils. But a careful comparison of peaches grown in various soils, has convinced us that the flavor and beauty of the fruit are incomparably higher in a mellow loam, than in a lighter and more sandy soil.

The great importance of deepening all ordinary soil, by trenching or subsoiling, is now so generally known, that no planter, of the least information on the subject, thinks of planting an orchard, or even a tree, without this preliminary step. In no climate is it so important as ours; and in no country, does it so fully repay, in the quadrupled health, vigor, and productiveness of the tree, the necessary cost and trouble which it involves.

The third secret, is to supply them with the proper food.

And this leads us to repeat here what cannot be repeated too often,—that the best general compost for fruit trees, is a mixture of *peat and ashes*. These two substances alone contain every addition to the soil necessary to the growth of fruit trees. There is hardly any part of the Union where swamp peat (the black, decayed vegetable matter of low grounds,) cannot be had very cheaply; and there are few parts of our country where wood ashes, either in a fresh or leached state, cannot be had at a moderate price. Now this peat, as it comes from the swamps, is so saturated with acid that it is almost worthless as a manure; but mixed with ashes, at the rate of five bushels of fresh ashes, or ten bushels of leached ashes, to a waggon load, it becomes nearly equal to cow manure, and far more beneficial to fruit trees, because the compost contains not only vegetable manure but lime, potash and phosphates; in other words, the mineral manures, so absolutely essential to the production of fine fruit.

Taking this mixture of peat and ashes as a general manure for fruit trees, let us turn it into a compost more especially adapted to the different fruits; for chemical analysis shows a different composition in the apple, and the pear, the plum, and the grape, etc.

To every cart load of the composted peat and ashes, after it has laid a fortnight, we would add two bushels of *air-slaked* shell lime, or any other good pure lime. This would be the compost for *apple trees*.

To every cart load of the peat and ashes, we would add half a bushel of ground or

* On the other hand, in very deep vegetable soils, (as in some parts of the western states,) the trees should be planted on little hills or mounds, 18 inches high, to prevent over rapid growth, and too succulent wood.

dissolved bones,* and two bushels of leached ashes, (or five pounds of potash, dissolved in water.) This would be the compost for *pear trees.*

To every cart load of the peat and ashes, we would add half a bushel of lime, half a bushel of ashes, and a peck of salt. This would be the compost for the *plum tree.*

To every cart load of the peat and ashes, we would add a bushel of lime, one of ashes, and half a bushel of gypsum or plaster. This would be the compost for the *grape-vine.*

To every cart load of the peat and ashes, we would add two bushels of leached ashes. This would be the compost for the *peach* and *cherry tree.*

We do not intend to give these as the best formulas for composts for these different fruit trees. The ingredients are by no means so exactly proportioned as even the present state of chemical knowledge would enable us to make; but they contain the essential elements, in proportions which we have tested; and we have avoided making them in the least complex, because we have always noticed that the majority of cultivators are reluctant to adopt what is not easily understood and carried into practice.

The good effects of such composts as these, instead of common manure, will be very speedily seen in all fruit gardens and orchards where they are used. Their use will as certainly bring about thrifty growth, healthy foliage, and fair and abundant crops, as careless and ignorant culture and manuring will the reverse.

We will only add, in conclusion, that where an orchard or garden has been neglected for some time, a very heavy dressing of such compost, say a coat two inches thick, should be applied at first. But where it is the practice of the cultivator to use the compost every year, it is only necessary to sprinkle enough over the surface every spring (turning it under lightly with the spade or plough,) to cover the surface half an inch thick as far as the roots extend.

ON THE MYRTLE TRIBE OF PLANTS.—[**]

BY DR. WM. W. VALK, FLUSHING, L. I.

In all the contributions to the pages of the Horticulturist, I presume it has been, (and is,) the design of its correspondents, to combine in their communications, matter both useful and interesting to the many thousand readers of this popular periodical. That such has been the case with myself I know; and trusting that the little already done shall have answered wholly, or partially, to fulfil the intent thus indicated, I shall, as often as I can find or make the opportunity, continue to offer *something* for the reader's consideration, upon the various subjects appertaining to horticulture. In doing this, I purpose availing myself of whatever materials I already possess, or that may come into the line of appropriation, from every source obtainable in the gardening literature of the day; consequently, my communications will be sometimes either wholly, or to some extent, original, or, again, entirely selected. If, in a greater or less degree, it shall be necessary and proper to modify a selected paper, by additions or omissions, there will be added

* Ground bones are only to be had in the cities; but every cultivator in the country may collect sufficient bones in his neighborhood, and dissolve them by following the directions on page 93 of this volume.

to its title, in brackets, *two* asterisks; if wholly selected, *one;* and if entirely original, no such indication will appear. Against the charge of "false quotations, misrepresentations, &c.," I shall ever be ready to answer, where such charge is made by a correspondent of reputation and veracity; for I cannot admit that any other has the least claim to notice. Hoping that I am now fully understood, I proceed to the development of the subject which heads this paper.

With an exception in favor of the *rose*, that universal charmer, the theme of the poet, and the pride of every garden, we are not aware of any plant which is better calculated to elicit pleasurable associations than the myrtle. As one of the loveliest of evergreens, elegant in its growth, graceful in its figure, its leaves are not only beautiful, but they abound with a fragrant essential oil of peculiar quality; and its *flowers* of dazzling white, pencilled with light airy stamens, each supporting a beautiful anther, are absolutely "redolent of sweets."

This charming evergreen is so retentive of its brilliant foliage, that, to quote the expression of Dr. Lindley, it seems as if it "were intended to make us forget that winter has power over vegetation." It is not our intention, however, to make the beauties of this species the chief subject of the present article; we select it as the *type* of an order, from which we hope to point out a few of the characteristics of what is now, *par excellence*, designated—"*The Natural System of Botany.*" We do this with the greater pleasure, because the members of the tribe are generally plants of great elegance, and further possess a peculiarity of structure which may very happily be adduced to explain the construction of this *natural* system, and to point out *how* it differs from the *artificial* classification of Linnæus.

The study of botany is as enchanting as it is useful; therefore, it is a pity its pursuit should be hampered by difficulties; but so it is with everything of man's invention, and we must submit. Yet we counsel not that those who have been educated in the Linnæan system shall abandon it. The rather do we say—"go on; you have proved by experience the facilities it affords, the light it communicates; but let not prejudice arm you against *that* classification which embraces and teaches the physiological structure of the vegetable organization."

To those students whose opinions are still immature, we recommend the impartial investigation of the elements of both systems. If but a mere insight into the leading principles of the *natural* system be desired, enough will be found in Dr. Lindley's "Ladies' Botany," and in the work of the "Society for the Diffusion of Useful Knowledge." If more than an insight is required, the student must make himself acquainted with the principles of the *science of physiological botany*, and expect to encounter difficulties and perplexities in his progress at every step. If, on the other hand, he only wishes to discriminate genera, to be able to classify plants, and give them "a local habitation and a name," we bid him go to the classification of Linnæus. There he will find light, precision, and arrangement, almost perfect, while the natural system even now, though improved by the zeal of a Lindley, is unfinished, unsettled, revised, added to, and altered perpetually.

But, putting aside all merits and deficiencies in *that* system, let us at once proceed to the elucidation of our subject, as at first proposed.

The myrtle tribe is one of the *orders* of the natural system. Its title is *Myrtaceæ*, and it is found in the first *Grand Division*, in which all the plants are of a vascular structure (*vasculares*,) in contradistinction to the second grand division, (*cellulares*,) wherein the stems of the plants are entirely cellular, and destitute of woody fibre and tubular vessels. The first division contains two great classes; our *Myrtaceæ* being in the *first* class, because its seeds have *two* lobes,—whence the term *Dicotyledons*. This great class is again subdivided; and in the first division are all those plants which have a calyx and corolla, (*Dichlamydæa*.) Again, this first subdivision has three *sub*-classes, viz: 1st, *Thalamiflorœ*, wherein the petals and stamens are attached to the receptacle, (as in the Ranunculus.) 2d, *Calyciflorœ*, wherein the petals, and often the stamens, are seated on the sepals or calyx leaves, as in most fruit trees; for example, in the *Pear*, *Plum*, *Peach*, *Almond*, cum multis aliis. 3d, *Corolliflora*, wherein the corolla is monopetalous, inferior, or below the germen, and the stamens attached to it; as, for instance, in *Snapdragon*, *Foxglove*, *Thyme*, *Rosemary*, &c.

Now, let any one acquainted with botanical structure, take a flower of the myrtle, and he will, after a short examination, be convinced that it must be referred to the *second* sub-class of the *first* subdivision; because it has a great number of stamens not attached either to the petals or receptacles; because the petals are seated on the calyx, and therefore it has both calyx and corolla; in short, that it belongs to the 12th Linnæan class,—*Icosandria*.

But the order *Myrtaceæ* is not solely founded upon the number or position of the stamens, and therefore contains many genera *not* in the 12th Linnæan class; which circumstance will be further noticed. But first, let us endeavor to find out the *number* as well as the *position* of the order; for in so doing, one of the imperfections of the system will be detected.

When in 1829, the *Encyclopædia of Plants* appeared, *Myrtaceæ* formed the 63d order of the sub-class; and the order itself was again subdivided into *three tribes*. The 1st, *Baccata*, contained eleven genera; the fruit or seed vessel being a berry. The 2d, *Capsulares*, comprised nine families, having *capsular* seed vessels. The 3d, *Lecythideæ*, with three genera, differed from the two preceding in this,—the fruit was either a drupe, (a fleshy, *succulent* rind, containing a hard stone in the middle,) or a vessel enclosed within a *leathery* rind.

The genera of distinguished beauty and excellence were seen in the first tribe, viz., *Myrtus*, the tree myrtle, and *type* of the order, with ten varieties of the common myrtle—hardy tenants of the green-house; the lovely but captious woolly-leaved, pink-flowered myrtle of China; and that most fragrant stove-evergreen, the pimenta-leaved myrtle,—*M. pimentoides*.

2. *Pimenta vulgaris*, or true allspice, or Jamaica pepper. These two plants are rarely seen in our hot-houses, or those of Europe. The first is much the most fragrant of the two, and more easily reconciled to our artificial climates.

3. *Psidium*, the *Guava*. A most interesting family; and the purple-fruited, or Cattley's guava, is perhaps the most perfect and graceful evergreen that an amateur of plants can desire, or possess. It may be raised from seeds, by cuttings, or by layers; grows freely, fruits early, and yields eatable berries the size of a large plum,—resembling, except in colour, a small orange. Any climate in green-house, vinery, or stove, not reduced below 45° of Fah., suits

it well; and, in addition to its many excellencies, the fruit will make a delicious jelly. In the flowers, it is obviously a true member of *Myrtaceæ*.

The pomegranate, *Punica*, formed one of the eleven genera (of Baccata;) but it now constitutes an order by itself,—*Granatea*.

In the second tribe, *Capsulares*, we found those ornaments of the conservatory,—*Metrosideros*, *Melalenca*, and *Colothamnus*, with their beautiful tufty pencils of gorgeously tinted stamens; the first belonging to *Icosandria Monogyn'a;* the other two to *Polyadelphia Polyandria;* the pretty small leaved *Leptospermums*, are more nearly allied to the true myrtles.

So much for the guidance of the *Encyclopædia*. But if we now turn to the catalogue of the *Hortus Brittanicus* of 1832, we find that *Myrtaceæ* has become the 84th natural order; consequently, no fewer than twenty-three intermediate orders have been *added* to the list. A great change has also been effected in the *arrangement* of the order; it no longer consists of *three* tribes, distinguished by the structure of the seed vessels, but of *six* tribes, founded upon bases, thus: 1. *Chamælanchieæ*, denoting the dwarfish, angular figure of the plants. 2. *Leptospermiæ*, the similitude of the genera to their type, *Leptospermum*. 3. *Myrteæ*, the same, &c. &c.

The list of the orders in the first grand division was increased to 210; and these are divided and subdivided into tribes, subtribes, and the like, to an extent absolutely alarming to the memory. As new plants come in, new orders must be originated to contain them, till we are ready to exclaim,

"What! will the line stretch out the crack of doom?"

These eternal alterations, changes of positions, and new creations, form the great blot of the system; a huge stumbling block in the way of the inquiring many, who cannot fail to see that the twenty-four simple classes of Linnæus, imperfect though they are, furnish a locality for every new introduction, to which it can appropriately be referred, without violence to the characters of its inflorescence.

To what conclusion, then, do we arrive, but that the Linnæan system is a simple, well regulated whole,—perfect in its structure, and easily available? It therefore is, and ever will remain, the *vade mecum* of the many. The natural system is, on the contrary, unfinished, unformed, composed of disjointed materials, grand in its object, comprehensive in its design, but so hampered with difficulties that it is likely to remain "a sealed book, a hidden mystery," the system of the learned few.

We started at a certain point, and have now got back to it again; therefore, we shall quote the characters which distinguish and illustrate the order *Myrtaceæ*.

"*Dotted leaves*, with marginal ribs, and an *inferior* ovarium and *single* style, are the great features of *Myrtaceæ*. They are all fine evergreen shrubs or trees, generally bearing white flowers, and in the first section, (tribe,) producing fleshy fruit, &c. The volatile oil contained in the little reservoirs of the bark, the leaves, and the floral envelopes, gives these plants a fragrance, which has caused them to be celebrated by the poets of old. There is also a considerable proportion of the *astringent* principle in these plants, very obvious in the bark of the pomegranate. The leaves of the Chilian myrtles, and some other species, have been used as a substitute for tea." (Ency. Plants, p. 1068.)

We said that *Punica* now constituted an order by itself—*Granateæ*. "This order has but one genus, the well known pomegranate,—differing from *Myrtaceæ*, in the leaves being *destitute of the pellucid dots*,

and the seeds enveloped in a pulp." (Hort. Brit., p. 513.)

The reader has now before him a fair, and pleasing specimen of the plan; from whence a sort of inference can be drawn, of the general arrangement of the natural classification. The subject may be again resumed, and other examples cited; in doing which, we hope to present to the lover of nature some more of those exquisite productions which charm the senses, and fail not to instruct the understanding.

WM. W. VALK, M. D.

Flushing, L. I., Dec. 30, 1848.

NOTES ON THE GROWTH AND HABITS OF PEARS.

BY WILLIAM REID, NEW-YORK.

SIR—If you think the following remarks, on some varieties of pears, worthy of a place in the Horticulturist, they are at your service. I trust they may be the means of inducing some of the practical cultivators, and others interested in fruits, to give us brief descriptions of the habits of growth, and other peculiarities characteristic of any varieties of fruits they may cultivate. I, for one, shall always read such notes with a great deal of pleasure; and I have no doubt there are many other readers of the Horticulturist who will feel equally interested. There are a great many sorts of apples, pears, plums and cherries, that always show a strong growth; there are many, again, quite the reverse in habit; some, again, will have drooping branches, others erect; and so far as I have been able to judge, I believe that we have no two varieties of trees that grow exactly the same. If my supposition is correct, when we receive a variety of fruit under a new name, bearing a resemblance to one we already possess, we have only to graft or bud a few of each in the same row, and if there is any difference in their growth it will be discovered at a glance; but should there be no perceptible difference, I think it would at least be safe to mark "doubtful" to the new kind.

But, to come to the point in a few words, what I would suggest is this—to endeavor to ascertain, from the different cultivators through the country, the habit and growth of the tree, as well as the quality of the fruit, &c.; whether it is a strong or weak grower; whether it grows erect or drooping. By taking as a criterion for pears, *Duchesse d'Angouleme* as a strong grower, *White Doyenné* as a medium, *Winter Nelis*, *Beurré d'Aremberg*, and *Seckel*, as slow growers, (these being sorts generally known,) we have then no difficulty in judging of the habit of almost any variety. Examples among apples may be taken in the same way, viz., *Baldwin* and *Rhode Island Greening* as strong growers, *Newtown Pippin* and *Porter* as weak growers. The following varieties of pears include the principal kinds that are of a *drooping* or *weeping* habit when young, so far as my memory serves me. There may be some few kinds of the same habit among the new sorts, lately introduced, that I am not so familiar with, as from recollection to be able to say anything about them at present; but I will, at some other time, send you a few remarks on other varieties that I am familiar with, of *upright* growth:

Maria Louise, I will begin with first, as I think this variety might be styled *Queen of*

the Twisters! It will frequently, when young, have the appearance of hoops, by the branches turning entirely round. There is very little symmetry about trees of this kind; when growing, they will generally extend themselves every way except upwards, and to get tolerable trees it is necessary to stake them, or *graft them on stocks three or four feet high.* It is, nevertheless, a hardy, vigorous tree, and a great bearer. As regards the qualities of this fruit, there seems to be a difference of opinion. I have eaten it, equal in flavor to any variety that is cultivated. I have frequently, again, tasted it and found it to be worthless. The wood is of a gray appearance, and the leaves have long footstalks. It grows well on pear stocks, poorly on quince, but makes very fine dwarfs on *thorn stocks.* If worked *low*, this is a variety that suits the latter stock well.

Winter Nelis is rather a slender, weak grower when young, and generally at three years will not be larger than other varieties, of free growth, are at two. The branches are pendulous, and the tree generally inclines a little to one side, with small, wiry wood; buds sharp pointed, and very prominent, (and will sometimes break off when budding, unless a little care is used;) foliage rather small and delicate. With age, this makes a good orchard tree, and is allowed by most persons to be an excellent winter pear; it varies much, both in shape and size. The tree grows best on the pear stock; but it will also make tolerable trees on quince.

Beurré d'Amalis grows very strong, with large, round, heart-shaped leaves, and a very loose irregular habit, spreading its branches in every direction. The side branches of young trees are generally more or less twining and drooping, although a fine hardy orchard tree. The fruit will only be appreciated [rather say tolerated, Ed.] by those who have not been in the habit of eating the finer varieties of fruits. The wood is of a rather dark olive colour. The tree grows very strong, both on pear and quince stocks.

A variety of B. d'Amalis is cultivated with striped bark and fruit; habit, the same as the other.

Beurré Ranz. This variety seems to have obtained a bad name, and, I think, without having had a fair trial. The only objections, however, I have heard is, it is difficult to *ripen.* I am of opinion that this will yet be a valuable pear for winter, having only partially come into bearing here as yet; it has not had any pains bestowed on it. It has fruited with me two years. The fruit resembles, more than any other sort, that of the St. Germain. This last year I had a few specimens; and although obliged to gather them nearly a month before the proper season, I put away in a dry place, and they were nevertheless very melting and juicy, although considerably shriveled. Dry sand or buckwheat chaff, filled in through the boxes or barrels, when putting up such fruit, will greatly help late sorts of pears to ripen and prevent shriveling. The growth of this sort is pretty strong and twisting. Wood of a gray colour, with numerous white dots. The Beurré Ranz grows well on the pear, poorly on the quince, but remarkably well on the thorn.

Beurré Bosc. Growth not quite so strong as that of some varieties; but it is what may be called a moderate grower, in the young trees especially. When a year old, the tops will frequently turn down; as, also, in two years old trees, the side branches will twist more or less. Wood of a light gray appearance. This sort makes pretty good orchard trees, but loses much

of its drooping habit with age. It bears singly on the ends of the branches. The quality of this pear is generally allowed to be very good. It grows well on the pear stock, but poorly on the quince.

Vicar of Winkfield is a strong growing, vigorous sort, and is also a great twister, when young, with large, glossy, broad, heart-shaped leaves. It is very similar in habit to Beurré Diel, but retains its foliage better than that variety. It produces very fair fruit, of a long, pyriform shape; and when grown on quince stocks, the pears will frequently have a bright red cheek. It is a valuable sort for market,—selling readily; but will only be used as a desert fruit when melting varieties are not to be had. It grows on the pear and quince, and is a particularly good sort for the latter stock.

Passe Colmar is a moderate grower. The wood of young trees is generally of a light yellow appearance. The tops of this variety also turn down more or less, especially on one and two year old trees. On the quince stock, however, I have observed that this habit is less marked. The habit of the tree somewhat resembles that of Maria Louise. It is a tolerably good early winter pear, and produces fruit generally in clusters on the ends of the branches. It grows both on the quince and pear stock.

Beurré Diel is a good hardy orchard tree. Branches drooping and twisting more or less when young, and frequently leaning a little to one side on young trees. The foliage is large, the whole habit vigorous, and it is one of the very best sorts for growing on quince stocks. This pear is not always of as fine flavor as it has been represented; but taking into consideration its productiveness, and large size, and fine appearance, it must be ranked, for orchard planting, one of the most valuable varieties.

Hessel is one of those hardy, productive sorts, that yield fruit in great abundance, and will succeed, sometimes, in soils and climates where many of the Beurrés will not. The habit of this tree is only partially drooping. It branches low, and makes a good low spreading tree, with gray wood. It has some resemblance to Maria Louise in the wood, but not in the leaves. The tree is less drooping. The fruit is of a fine yellow appearance, with gray dots, beautiful to look at, but lacking juice to make it first rate. It ripens with me in the last of August.

English Jargonelle. This is a well known old variety. The wood has a very dark appearance, and the tree, when without leaves, is mistaken by some, who are not familiar with the wood of pears, for an apple. It is of vigorous growth, and always, when young, leans to one side. The side branches are twisting; leaves large, round, heart-shaped, and often with a downy appearance when young. It maks a large spreading tree in the orchard, and was formerly considered, by English cultivators, one of the best early pears. It does not prove such here, and must give way to other early kinds, of superior flavor. It is, however, a good bearer, but coming into market about the same time as the *Windsor*, or Summer Bell, which the aforesaid a good deal resembles, and being of very little better quality than the Windsor, which is rather larger and a prodigious bearer; these qualities make it more valuable than the Jargonelle. Indeed, there are probably few early pears, ripening about the first of August, which will yield a better profit to the orchardist than the Windsor; immense quantities of it being sold in the markets for *baking* pears. This variety is readily known from the Jargonelle by its strong *upright* growth. Both sorts grow on pear or quince stocks.

Hacon's Incomparable. This variety I have cultivated for ten years. It has never yet borne fruit with me; and I have observed that, in various places, its growth has been slow, of a crooked, straggling habit, and, unless staked, the tops of the young trees will bend over. I have seen the fruit several times, and also eaten it; and although highly recommended by English cultivators, it will, I fear, prove of little value here. This sort grows on the quince.

Respectfully yours,

WILLIAM REID.

Murray Hill Nursery, New-York, Jan. 13, 1849.

A VISIT TO SPRINGBROOK, THE SEAT OF THE PRESIDENT OF THE PENNSYLVANIA HORTICULTURAL SOCIETY.

BY JUSTICIA.

DEAR SIR—When your particular friend, Professor J., of Schenectady, was here, the past season, he was greatly surprised that a description of the handsome establishment of CALEB COPE, the estimable president of the Penn. Horticultural Society, had never appeared in the Horticulturist. I then promised to send you some rough notes of it, without any embellishment, which I now fulfil, with a recent visit fresh in my mind.

SPRINGBROOK is eight miles north from Philadelphia, on the Bristol turnpike, and near the new depot of Tacony. It is situated on rising ground, commanding an extensive view of the adjacent country, Delaware river, the Jersey shore, and the city. The elegant mansion is surrounded with a spacious lawn, kept in a masterly style; and the pleasure-grounds are enclosed by a light iron fence, about half a mile in length, and studded with many varieties of hardy trees, backed by a natural piece of the most majestic woods,—giving a fine sylvan character to the place. To the left of this grove is a sheet of spring water, rising on the farm, (which farm contains upwards of 100 acres,) that supplies a powerful *Hydraulic Ram*, diffusing the water over the whole place, supplying reservoirs, fountains, waterfalls, &c. Connected with the dwelling is a span-roofed conservatory, filled with plants in bloom, including a carriage entrance, under glass, for the convenience of taking up the family in time of rain or sickness. Farther south is another span-roofed house, 32 feet long; one side for Geraniums, embracing 60 of the finest sorts, and the other side for choice fancy Roses, many of them now in full bloom. Connected with this house is another, similar to it, for Azaleas, Rhododendrons, and other showy blooming plants of like treatment. We now sally forth into the flower garden. The flowers are grown in beds and masses, and consist of sorts that are either continually in bloom, or such as are succeeded by others from a *reserve-garden*, producing a magnificent display the entire season. Among them, beds of *Salvia speciosa*, *Plumbago*, *Tweedia vinca*, *Bouvardia* and *Lantana*, were very conspicuous among the more common varieties that are generally grown. Contiguous to the flower garden is the "Cactus-house," 81 feet long, heated by water pipes, and containing a collection of Cactii, far surpassing any other in this country; and for health and beauty of specimens, equal to that which I saw in the "Garden of Plants" at Paris. The

large *Cereus* are trained up the rafters, producing thousands of gorgeous flowers; *Echinocactii*, 9 or 10 feet in circumference; *Monkey Cactii*, 5 feet high; "*Turks' heads*," that are bigger than the sultan's; as well as Cactii in the guise of rats and snakes, porcupines and pin-cushions, with every other imaginable and grotesque form,—making a scene entirely unique and wonderfully grotesque.

The extreme end of the house is covered with a splendid *Passiflora alata*, in full bloom. To the right of this is the orangery, 38 feet long, filled with handsome trees, in fruit bearing, of the Orange, Lemon, Lime, Citron, Shaddock, &c. Those trees, grown in large tubs, are picturesquely arranged on the lawn in the summer season. Back of this house, and fronting the flower garden, is the Orchid-house, (or Air-plant-house, as some call it,) 38 feet long, heated in connection with the orangery by hot water. Any description of mine will fall short of conveying a proper idea of this tropical forest and atmosphere. You must not visit us without paying your respects here, to witness a collection of all the choice and rare *Cattlyea*, *Gongora*, *Oncidium*, *Dendrobium*, *Stanhopia*, and hundreds of others, whose characters are entirely new to me, and acknowledged by competent judges to be rich in the extreme. They are attached to pieces of bark, blocks of wood, planted in baskets of every shape, placed on blocks of trees or banks of moss and stone, attached to the wall, or depending from the rafters,—and all displaying their *animated* and beautiful blossoms, in the guise of butterflies, humming-birds, dragons, toads and canaries, with many other fanciful bird, beast and insect resemblances. The scene is heightened in effect by a lovely *waterfall*, dashing with a musical sound over rocks, and falling into a fanciful but natural looking mossy basin, placed over the hot-water pipes, producing a genial atmosphere of moisture whenever required for those remarkable parasitical plants. The water for this house is everywhere abundant, and at command, from a tank or reservoir that holds over 2000 gallons, supplied by the Ram.

To the south of the Orchid-house is an early grapery, 31 feet long, now pushing forth luxuriantly, and promising, even with the external air at zero, an abundant crop. Along the edge of the walk are apricots, peaches and nectarines, in tubs and pots, in full bloom, and expected to be ripe in May. Adjoining is a later grapery of same dimensions; and then we enter the *Nectarine-house*, 62 feet in length, without artificial heat. I saw it last July, and then beheld such a crop of such fruit as I never before saw,—measured the *Red Roman* nearly *nine inches in circumference!* besides Elruge, Early Newington, Fairchilds, Vermash, Boston, Downton, New White, and others, maturing at different periods, and all grown in perfection. A liberal and regular thinning out of the fruit before stoning is practiced, which leads to the above results of large size, rich flavor, high colour, and a uniform crop. Connected with the Nectarine-house are two houses recently erected, each 30 feet long, heated by water. One of them is planted entirely with white grapes, and called the *White-house*. What a fine picture it will show, when full of ripe, golden, honied fruit. The other is for forcing cherries, plums, apricots, grape-vines, &c., in pots. The upright front of this house is double, having grape-vines planted between the glass; the vines will thereby be excluded from the heat till required to be introduced and trained up the rafters to ripen at any given period. A new and very excellent arrangement.

I will now introduce you to the Culinary Forcing-house, with a low span-roof, 33 feet long, in two departments. The cool department has now in it fit for the table, and has been supplying it since Christmas, with asparagus, radishes, lettuce, kidney or snap-short beans, &c.; and there are in a state of forwardness potatoes, and the following strawberries: Hovey's Seedling, Keen's Seedling, Buist's Prize, and Buist's Early May. The warm compartment has grape-vines in pots, showing their bunches; cucumbers, training up the rafters, and near the glass; citron and other melons grow in perfection,—all promising well for an abundant crop. Proceeding towards the flower-garden, the next interesting point, is the Camellia-house, upwards of 60 feet in length. The collection is very select, embracing 106 varieties, selected from the choicest European, Chinese and American sorts. In its centre is a superb *Rhododendron arboreum*, now in full bloom, with many rare and choice Camellias. It would have afforded me pleasure to record the names of the very conspicuous plants and fruits in every department, but it would have extended my notes beyond the ordinary limits of magazine articles. To see one of the specimens, *Acacia pubescens*, a *perfect picture*, 9 feet high, was well worth an 8 mile ride in a cold day.

But we have not been in the "Mush-room-house," where mushrooms are grown in abundance from November to May, and which is well worth a few moments. The tool-house, that usual receptacle of broken tools, lumber, old pots and pans, is like a well arranged armory. Every article has a place, and in it. The duties of the gardener and his assistants are defined by written rules and regulations; a system which the proprietor has found productive of the best results. There is also a neat carpenter's-shop; a house for shutters and matts, where they are protected when not in use; and near these are the pits for cauliflowers, salad, and other matters that may be required for the kitchen or table.

The kitchen garden is separated from the lawn and flower garden by the Cactus and Orchid-houses. It covers $1\frac{1}{2}$ acres, is well arranged in beds and terraces, with a large open cistern of water in its centre,—all in excellent order. The quarters are interspersed with dwarf fruit trees, variously pruned and trained, and all in a young bearing state. The collection of pears, &c., is of the most select sorts. Some new kinds are not yet fully proven; but the judicious taste of the proprietor will not allow an inferior article to produce a second crop. Looking from this point to the west, you see the gardener's cottage, on an elevated position, overlooking all the buildings and details, harmonizing with the green-houses. Red brick edifices, you are aware, are unpleasant objects in rural landscape. And we find all buildings here brought into good keeping, by being painted of an agreeable light stone colour. And now, having taken you and your many readers through and under 17,000 square feet of glass, kept on the most refined system of gardening, must bring my notes to a close; only adding, that the plants and vegetables are grown solely for the use of the family. Basket after basket is, however, generously distributed to the sick and the stranger, by the bountiful hand or orders of Mr. Cope.

I must also add, that not a week passes that there are not some new additions to the collection, either from Europe or the public collections of this country; whilst the nurseries of Philadelphia come in for their quota of patronage. Your pages often record the success of the gardener, B.

DANIELS, in taking prizes at our horticultural exhibitions. His industry, intelligence, and excellent management are visibly stamped in every spot and every department of the estate. I will leave your readers to judge if the *horticultural* attractions of *Springbrook* are excelled by those of any other country seat in the Union. All having been got up within six years, without the least flourish of trumpets, but with that quiet enterprise and taste, so characteristic of the broad brimmed fathers of our city.

I forbear any details of the mansion, dairy, or farm, where 12,000 drain tile have been laid to great advantage, affording occular evidence to our farmers what can be done to fertilize any wet, unproductive land. I have also overlooked many details and embellishments of the pleasure grounds, till you can realize the effect for yourself. With regards of JUSTICIA.

EXPERIMENTS IN HORTICULTURE—NO. 2.

BY B., POUGHKEEPSIE, N. Y.

PEARS.—My grounds contain about six hundred pear trees, comprising ninety varieties. They have been planted successively, some every year, since 1836; although most of them have been planted within the last two years. My first planting was in 1837, and consisted of Bartlett, White Doyenne or Virgalieu, Seckel, Urbaniste, Bloodgood, and Easter Beurré. They were set into the ground by an Irish laborer, after the approved fashion, "like *posts*." Of course, they grew like posts for a few years, until experience taught the necessity of bestowing extra care and attention, in order to resuscitate them. The Seckel, Bartlett and Virgalieu, now bear tolerable crops of fair fruit; but the Bloodgood has not ripened more than half a dozen pears, and the Urbaniste has never produced even a blossom.

In the spring of 1842, I planted another lot of trees of the same varieties. The holes were dug six feet in diameter and two feet deep. One-third of a load of stable manure was then thrown in and mixed with the soil, which was naturally rather heavy. In 1847, when these last had been planted *five* years, and the first, *ten* years, I compared them, and found those planted in 1842, to be considerably the largest and finest trees in all respects, and bearing more and better fruit. Since that, I have made it an invariable rule, never to plant a tree of any kind (except peaches,) without preparing the ground thoroughly. It is decidedly cheaper to spend a dollar in planting a tree thus, than to have it planted for nothing on the old system. If a tree is not worth the trifling care and expense of being planted *properly*, it is not worth planting *at all*.

In the winter of 1847, I imported from France, thirty pear trees, on *quince* stocks, two of each, of fifteen choice varieties. They arrived in New-York about the first of January, and remained there in a counting-house until March, when they were forwarded to Poughkeepsie. When opened, although packed in the very best manner, they were much shrivelled, and apparently dead. I caused them to be put into a cellar and kept covered with wet straw until April, and then planted them eight feet apart. Contrary to my expectations, and

the predictions of my gardener, who declared that he was wasting too much time upon "dead Frenchmen," seventeen of them lived, although one of them did not show any active signs of life for upwards of a year; and most of them made but little growth the first season. Last summer, however, they took a fine start, and made a growth of two or three feet. Two of them ripened fruit. One of these was a Williams' Bon Chretien, (Bartlett,) which bore three of the most beautiful and excellent pears I ever saw. They were a clear yellow, with a slight blush on one side, and weighed twelve ounces each. The other bearing tree was marked "Beurré d'Amanlis," and bore three pears a little larger than the others, but not so handsome nor so good. If these latter are fair specimens of the products of dwarf pear trees, I shall never plant anything more of that variety.

Last spring I put out some three hundred pear trees, chiefly on quince stocks. The ground was first trenched twenty inches deep, and well manured with street sweepings,* (which, by the way, I consider the very best manure for fruit trees.) The holes were then dug eight feet apart, and one-fourth of them filled with trees on pear stocks, and the residue with quince stocks. Thus, the pear stocks are sixteen feet apart, and are designed to occupy the whole ground when the dwarfs shall have spent their comparatively short life in the intermediate spaces. They have all grown remarkably well,—our season having been peculiarly favorable. I noticed three Bartletts which ripened fruit. One bore six, another four, and another one, fair, good pears. This no doubt frequently occurs; it is the first instance within my observation, where a pear tree, but two years from the graft, has ripened fine fruit the season it was set out. They were on pear stocks, and obtained from my neighbor, Mr. North. The dwarfs were chiefly obtained from the nurseries of Messrs. Ellwanger & Barry, Rochester. The trees, although mostly but one year from the bud, were fine and healthy, and came to hand in excellent condition. Not one of them, I believe, has been lost by transplanting. There is, however, a great diversity in their growth; some kinds having grown four feet, and others have not grown as many inches.

The only varieties that have made scarcely any growth are *Louvain panachè* and Swan's Orange. From present appearances, I am inclined to think the last of these will not succeed with me.

Of those which have made a very moderate growth, I enumerate the Beurré Easter, Passe Colmar, Angora, Madeleine, Dearborn's Seedling, Seckel, Bartlett, &c.

The following have made a growth of a foot and upwards: St. Germain, Forelle, Napoleon, Fortune, Bloodgood, Belle de Bruxelles, Doyenné d'Ete, Countess de Lunay, Rostiezer, Fig d'Automne, Colmar d'Ete, Glout Morceau, Summer Rose, and Dutchess d'Angouleme.

The following have grown very strongly, having made an average of from three to four feet of new wood, viz: Beurré Diel, Martin Sire, Chaumontelle Gratioli, Glory de Cambrone, Louise Bonne de Jersey, and *Nouvelle d'Oeuf*. This last is a pear with which I am wholly unacquainted,—not having seen it described in any book, or named in any catalogue of recent date. If it should bear as well as it grows, it will be well worthy of cultivation.

The *blight* gives us some trouble; occasionally taking off a tree or part of a tree in a mysterious and unaccountable manner. My observation and experience leave me in profound ignorance of its cause and cure.

* Street manure,—sweepings of the streets of towns.

Nor have I ever read any satisfactory solution of the problem.

Some of my trees are affected in a different, but equally fatal manner. The bark cracks open, and gradually separates from the body of the tree, until the whole trunk, for two or three feet above the ground, becomes nearly or entirely denuded. I have at present a row of "Summer Virgalieu" trees, all in this situation. Last summer they bore a large crop of *beautiful*, but entirely worthless fruit; and made no growth of wood. Can this be one of the *decayed* or run out varieties spoken of by Knight and Kenrick? B.

Poughkeepsie, Jan, 1840.

THE USES OF LIME.*

Few gardeners rightly appreciate the value of lime; but we have had opportunities of seeing it applied in so many ways, and for so many purposes, that we feel the necessity of communicating some of them. At this juncture—while we are, in fact, writing—there is a general complaint of mildew among cucumbers, and disease among potatoes. We have seen lime applied in both these cases, with the greatest possible success; but it must be properly applied. It must be applied wherever there is the disease; nothing short of this will do. If any part which is attacked be left, of course that part will not be affected with what does not touch it. In case of cucumbers, we have seen a dredging-box used, and the powdered lime applied under as well as over the leaf, while the steam, which in the morning is like so much dew, is upon the foliage; and the effect has been almost instantaneous. The parts too far gone to recover have dried up, and the healthy portions, however small they may be, have been left; even half a leaf has been seen to live well, while the other has shrivelled up as if it were burned. We have seen the same frame that appeared reduced to mere skeletons of plants, recover so completely in a month, as to be full of healthy plants. Applied with a sieve on the open ground to cucumbers in ridges, some plants perfectly recovered, others never rallied at all. We take this to be accounted for by the disease having made, in some plants, too great a progress before the lime was applied, and that it had not made so much progress in those which perfectly recovered. Or it may have been, that the lime only covering the upper surface, the portions of the plant that were, in some cases, covered up, took no benefit, and the disease continued its ravages. Precisely the same effect was produced on potatoes that were affected. The lime was sifted on them while the dew was on them, and all the upper surface got well sprinkled. In most cases, the heart of the plant and the stems received upon the surfaces the powdered lime. A large portion of the crop—indeed, wherever the lime absolutely touched the surface of the stems and foliage, almost instantly dried up as far as the disease went; and we have no doubt that, had it been followed well up, day after day, until all had been sprinkled where they were affected, the effect would have been the same throughout. The crop turned out well, with the exception of those plants which had not been properly sprinkled, and they continued the disease down to the lower part of the stem; but very few were touched, and we took the precaution to place all the potatoes that came from plants still diseased by themselves, that they might be used first. Lime soaked, or rather slaked in water, is efficacious in all possible ways for destruction of insect life. The syringe applied with it to trees infested with caterpillars, soon clears it altogether. Sprinkled on grass lawns, which it whitens till the rain washes it off, it drives the worms down, or brings them to the surface very quickly. Syringing plants which have the bug, or wall fruit trees, (that are sometimes covered with ants, ear-wigs, small caterpillars,) and afterwards with clean water, is of great service; and lime dusted,

[* From the London Hort. Magazine.]

or lime water sprinkled, on gooseberry and currant trees, cleans them as completely as if they had never been attacked. Laid round a bed liable to the attacks of wandering snails and slugs, it prevents them from crossing the boundary; but it requires renewal, because its caustic qualities are lost in time. Ploughed into land, or forked into beds infested with grubs, it has the best possible effect! and where the garden is bounded by a hedge, which is the most harboring of all receptacles for vermin, there is no better means of destroying the greater part of them than sousing it well with lime water, by means of the garden engine. There can be no mistake in lime water, for this purpose; because you may let the water take up as much lime as it can, only it must be used clear. Lime is one of the best substances to mix with manures of all sorts; it absorbs that which would be wasted; it disinfects the mass; it makes the most offensive matter inoffensive. A layer of night-soil, and a layer of lime, would be as harmless as so much common earth. It is impossible, therefore, to overrate the usefulness of this substance, in the garden or in the farm; and the more the public begin to understand the value of the sewerage of the metropolis, the contents of cesspools and drains, the more will they also recognise the value of that substance which will render the most nauseous of all waste harmless, and prepare it for the earth which requires it. Lime is of such efficacy in the way of disinfecting any disagreeable production, and counteracting infection in every shape, that one of the most early precautions against the approach of contagious disease, is to lime-wash the brick walls of all work-houses and public buildings where the lower orders congregate. It is even said that the brick walls of the chief apartments in union-houses, is not covered with plaster, or other matter, because they should take the lime-white readily; and this hint may not be lost on those who house and provide for many work people during the summer season. Lime-white the walls, and use lime to disinfect anything that might become a nuisance.

ON THE CAMELLIA AS A HARDY PLANT.

BY SAMUEL FEAST, BALTIMORE, MD.

Dear Sir—In a late number you copy some remarks, on the hardiness of the Camellia, from the *Gardener's Chronicle*, and add that this fine exotic may prove hardy in Baltimore. Dr. Edmondson, of this city, has paid much attention, of late years, to raising Camellias from seed; and after flowering, the inferior varieties were planted out in the open ground. Some account of his experiments may, perhaps, throw light on the hardiness of the Camellia in this country.

His first experiment was with the old striped, or double variegated. A plant five feet high, of this variety, he planted out with Rhododendrons in the city, under a north wall, in a small garden, protected from the sun and wind. It stood two very severe winters, but never flowered, and was much disfigured. The second trial was with a large single red, on the southern front of his house in the country, fully exposed to the sun. This plant was killed to the ground the first winter. The third experiment was with a large single Red. It was planted on the northern side of the house, and protected with straw carpeting. It has been out four winters, and it does not prosper. The fourth trial was made with nine strong *seedlings*. These were planted in a clump, in a northern exposure, shaded with large sycamores and other trees. They have been planted four years, and at present are full of buds. The fifth

trial was made by setting two large clumps, 100 each, of seedling Camellias. They were planted one foot by one and a half apart, in very poor soil, shaded by large trees, the aspect open to the northwest winds. The two first years, they were protected by an open shed, that is, on three sides, and the top covered; the shed being open to the southeast. Nothing was put upon the ground to protect the roots. The first winter the flowers were small and stunted. Last season they flowered partially through the winter; but in the month of April *had as fine a show of flowers as if the plants had grown in the green-house;* and bore a profusion of seed. This season they have no protection, only a thick covering of leaves, to keep the frost from the roots. They look as well now as the plants in the house.

To give you some idea of our temperature, I will remark that, on new year's day, I had the *Magnolia grandiflora exoniensis* coming into flower; and *Chimonanthus fragrans* and several other plants in bloom. On the 11th of January the thermometer was below zero of Fahrenheit. In the winters of '47 and '48, the mercury was down to three and four degrees. The Camellia will stand a great degree of cold, provided it is planted in poor, dry, gravelly soil, where the roots of other trees absorb the moisture of the earth, and protect the plants from the sun. Last November I observed that Dr. Edmondson had planted Camellias in various locations on the borders, to prove their hardiness. Respectfully,

Sam. Feast.

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The above interesting account proves, conclusively, that the Camellia may be considered a hardy plant, under certain conditions, wherever the winter temperature is not colder than zero of Fahrenheit.

We look upon Dr. Edmondson's experiments as also confirming our previous opinion, that raising plants from seeds sown in a given climate, is a great step towards rendering them hardy in that climate. Ed.

ON THE VALUE OF ASHES, LIME, ETC., FOR FRUIT TREES.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

It is well known, that all varieties of fruits do not flourish and mature equally well in all sections of the country. This has been mainly attributed to climate; and it has not unfrequently happened that a fruit-grower in one part of the middle states, hearing the qualities of a particular fruit, as grown in another part, has obtained and fruited it; and upon its not meeting the pains bestowed upon it by the first grower, has either counted the variety unsuited to his *climate*, or classed the first grower as ignorant and deceitful. Such decision, I venture to assert, may frequently have been found hasty and erroneous. Had the recipient of the new variety received, at the same time, an *analysis* of the *soil* in which that particular variety had been grown to perfection, and applied such knowledge justly to the soil in which he was about to plant, the result would have been very different.

Climate, I think, will be found to have very little influence upon the good or bad qualities of a fruit. Indeed, I am somewhat disposed to assert, that it has no other influence than that of hastening or retarding maturity, as it is cold or warm. The

application of special manures, or components of soil, by different cultivators within the past two years, by which old varieties, or those not before esteemed, have been improved and restored, is an evidence that food, suited to the wants of the tree, was required in the soil; and not, that climate had aught to do with its deterioration.

As lime, or its phosphates, form a component part of all special manures for fruit trees, I will, as per your request, briefly note some few instances, among many, where it appears beneficial; and, again, where it does not appear required. To give a complete list of varieties that are affected by its presence in the soil, would occupy more room than I will dare presume upon.

The soil of northeastern Ohio, as a whole, is deficient in lime; that of northwestern, and southwestern, abounds more or less in it. But it is not always within the reach of roots of trees; and therefore, as I will state presently, the reason why some varieties requiring lime do not succeed in localities, often denominated limestone sections.

The "Waxen," "Belmont," or "Gate" apple,—for it is known in Ohio by all these, and even more names,—succeeds finely in most of northeastern Ohio. In northwestern Ohio it will sometimes be found good; but is frequently dry rotted at the core, deficient in flavor, and often covered with mould or fungus. A similar statement will apply to the central and southwestern part of the state. This is accounted for from the fact, that in many sections of limestone country, while there is abundance of the mineral eighteen inches or two feet below the surface, that portion of soil usually turned up by the plough or spade contains no lime beyond what may be found in all soils from decomposition of shells, droppings of birds, &c. This fact, too often overlooked, reconciles the query as to how a variety, which grows and matures perfectly in one place, does not do equally well at a distance, often of not more than twenty yards. It is simply that, at this distance of only twenty yards, the surface soil is nearer the limestone subsoil, or perhaps is partly incorporated with it.

The "Baldwin" apple, so justly celebrated in the eastern states and in northern New-York, has, in Ohio, been subject to a dry, *bitter rot*, rendering it of only a second or third rate character, equal to "Pennock." Experiments have been tried, on a limited scale the past season, to remedy this by applications to the soil in which the trees grew. In one instance, where the tree stands in sandy soil, the simple application of a liberal dressing of wood ashes has resulted in rendering the fruit perfect. In another instance, where the tree stands in a clay loam, which has been well dressed with barn-yard manure, and sown with plaster, and upon which two years since was grown a crop of clover, last season turned under and the land cropped with corn, then sowed to wheat, was this year sown with common salt until the ground was white as far as the branches of the tree extended. The result has been perfect fruit, where, for three previous years, the bitter or dry rot had existed. The "Roman Stem," upon sandy soils, without any special applications, produces fruit small, knotted and blotched. By the application of half a bushel of caustic lime, to a tree of about three inches diameter of trunk, the fruit has been rendered perfect. In most parts of what are designated as limestone sections, or where the trees stand in soil in which lime holds a prominent part, the variety is counted among the best.

The "Vandervere" is a variety which I think delights in a rich alluvial soil; as it

is in such soils that I have seen grown the most perfect fruit.

The "Rhode Island Greening," classed by nearly all as a variety to be placed in select lists, has not proved a first class apple in all places in northern Ohio; and at this time, cultivators in central southern Ohio, deem it an insult to place it in a list recommended for their culture.

Such is the diversity of appearance in this fruit, grown in different soils in northern Ohio, that I at one time believed there must have been grown seedlings by the settlers from Connecticut, where the Greening is, or was, among the best, from seeds of this variety; and so much resembling the true, as not to have been detected. Having upon my grounds two trees of Greening in bearing, and which were standing within ten rods of each other, and apparently upon a similar (sandy) soil; the one fruiting a clear, perfect fruit,—the other the blotched, dull green, or "mouldy" variety, I last year applied wood ashes to the latter, and this season the fruits perfected alike.

In central southern Ohio, and on the borders of the Ohio river, twenty-five years since, this was esteemed one of their very best apples. At this time, with some exceptions, it is discarded. In the Ohio Fruit Grower's Report for 1848, page 25, Dr. Barker speaks of an orchard in Muskingum county, a freestone soil, and fruiting as fine as ever. And again, of having found bitter rot in all orchards of this variety which he had visited, except the one above named and one other, which latter had been supplied with ashes.

As I before remarked, while there are sections denominated limestone sections, it is not always that any portion of lime is incorporated with the soil, at a depth which the roots of a tree would naturally reach. That such is the case, and that the soil, where twenty-five years since this variety succeeded, is now exhausted in this material, would appear, from the fact of an application of wood ashes having rendered the fruit again perfect.

The "Winesap" is a variety which *apparently* adapts itself to all soils, and in all, is a fair appearing fruit; but when grown in soils which have lime as a component, I have found the texture not as fine and not as crisp and sprightly as when grown in sandy loam.

The "Newtown Pippin" succeeds most admirably in most of northwestern, central and southwestern Ohio, where lime is found. Instances are known where it has not proved good in these sections; but they have, when known to the writer, been always traced to a want of lime in the soil. In soils deficient in lime, an application of lime, or a liberal dressing of wood ashes, has resulted in producing good fruit. Cultivators vary in opinion, as to whether this variety answers best on what are termed clay, or on sandy soils. My own observation has been to award it a medium, i. e., a loamy soil, and more or less abounding in lime.

The analysis of Prof. Emmons of the wood of the apple, pear, &c., as published in the Horticulturist (for January) last year, has been productive of much good; but to enable cultivators correctly to grow different varieties in perfection, an analysis must be made of each separate and distinct variety, from which the grower can decide (knowing his soil,) what particular material is necessary to be applied. Very respectfully, F. R. Elliott.

Cleveland, Ohio, Feb. 2, 1849.

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Remarks.—We owe Mr. Elliott our sincere thanks for the foregoing interesting, and practical observations. We beg those who are inclined to underrate the value of special manures, (and among the rest an

editorial friend in Boston, who, if we remember rightly, has denominated our own efforts, and those of others, toward awakening public interest to the value of inorganic manures, "quackery,") to examine Mr. ELLIOTT's account of the direct and distinct result of experiments with lime and wood ashes. As we have before stated, we have no doubt that, in nine cases out of ten, where a variety of fruit which once flourished in a given soil, has ceased to flourish and perfect fine fruit there, it is because the soil has become destitute of the necessary *mineral* manures; and in nearly all such cases, the plentiful application of wood ashes alone, or wood ashes and lime, will restore the healthy condition of the trees.

Our correspondent, in his remarks on the supposed influence of climate on certain varieties, no doubt alludes to our own work on Fruits. We candidly own that we were wrong. We were satisfied, more than a year ago, that we had attached too much importance to the effects of climate in *deteriorating* varieties; and accordingly rewrote and altered (in the *eighth* and subsequent editions,) all that portion of the *Appendix*, etc., in our work on Fruits, relating to this subject. A larger observation of the effects of the composition of soils, within the last two or three years, convinced us that much of what we attributed to climate was simply owing to a want of the necessary inorganic, or *mineral* manures in the soil; and as we are always ready to abandon a wrong opinion the moment it is plain to us that it is an error, we beg those who have only the earlier editions of our work to do us the justice to remember this correction.

At the same time, we think climate often has an effect upon the *quality* of a given fruit, though not upon the deterioration. Thus, the Ribston Pippin is a fair and beautiful apple on the Hudson; but it is of little or no value, either in point of flavor or keeping quality, as compared with the same fruit grown in the colder climate of Maine; and the comparison of notes with Mr. ALLEN, the intelligent president of the St. Louis Horticultural Society, has proved to us that many of our finest fruits are only of second quality in Missouri, merely from the effects of climate. ED.

POMOLOGICAL CONVENTIONS.

ANY one at all conversant with the horticulture of this country, can easily see that not only fruit-growing for pleasure and profit, but pomology as a study and a science, are becoming matters of larger interest here than in any other part of the world. The superior quality of the best American fruit, and the large crops which now find a market, both at home and abroad; the constant demand made upon nurserymen for the best trees, and upon experienced writers for works on fruits; these are all strong proofs of the awakened state of the public mind regarding this branch of horticulture,

Perhaps a more decided and significant evidence of the interest in pomological science is, however, witnessed in the assembling of *pomological conventions* in different parts of the country, with a view of comparing varieties, correcting errors, and disseminating knowledge on all pomological subjects. Such excellent movements are the conventions held for two years past in Ohio; and, during the past year, at Buffalo and New-York.

There cannot be a doubt that such conventions are of great service, both to fruit-growers and to pomology. The former learn what is good, and what is worthless, what succeeds, and what fails, from the lips of practical men,—the best of all teachers. The latter gains by the accumulation of knowledge, and by the rectification of errors.

It is also very clear that, in a country so broad and so various in its climate as the United States, no invariable rules can be laid down by any local society, convention, or writer, for the whole country. Thus, the Fall Pippin, the queen of autumn apples in New-York, takes only a second rank in New-England; and the Rhode Island Greening, one of the best in New-York, is one of the poorest in Missouri. Here lies, then, the real and the limited value of local societies, and state conventions. Hence we approve highly of all efforts of this kind; all associations,—agricultural, horticultural, pomological, of a local nature, because it is only by their means that particular districts, states, or sections of the country can be benefitted; and it is by developing and perfecting, to the utmost, the resources of each particular town, county, and state, that the general standard is raised to its highest pitch.

But it is also equally clear, in the progressing advancement of a subject so full of details and perplexities as that of pomology, that there are some things which ought to be performed, and yet which cannot be performed by local, sectional or state associations. Among these, for example, are establishing standard names of certain sorts, known by a dozen different titles in different parts of the country. A state convention, (no matter what title it bears,) for instance, may decide, like that at Buffalo, that the apple generally known as the "*Early Harvest*," shall be called the "*Yellow Harvest;*" or, like that in Ohio, that a fruit known in New-England by one name, and in Ohio by another, shall be called by the latter; but it amounts, after all, only to a resolution. We say it amounts to this, because so long as these are only *local* conventions or associations, even if attended by growers from other states,—so long, in short, as opinions, that relate to general and not to local matters, do not emanate from some association or body which the community at large recognizes as being delegated with national, and not with local powers, so long the public, fruit-growers generally, and pomological writers, will not recognize or respect such opinions; and however good they are, consequently only a dead letter.

We make these remarks, because we know the public earnestly desires, besides the local societies, some one association (and there can be but one,) of a national character; which shall consist of delegations representing all the local societies, and thereby making a body of the best horticulturists and pomologists in the country, *officially* stamped and recognized as such by the local societies, from whom they are sent in all parts of the country. Whatever decisions about pomological points, of general interest or question, such a body should give, they would, it seems to us, be entitled to, and would receive the hearty assent of the whole country.

Last October such a body was convened in New-York, under the title of the National Convention of Fruit-growers. It was composed of delegates from all the leading horticultural and agricultural societies from New-England to St. Louis. It was by far the largest and most intelligent body of horticulturists ever assembled in America. It resolved itself into a permanent national

association, under the name of the American Congress of Fruit-growers; and it appointed committees, in a majority of the states, to collect information, and report at the next session.

This is so far excellent. The call was made in the right spirit; it was admirably responded to; and we cannot but think the Congress will be productive of great good. Time and labor alone are wanted to achieve the excellent results proposed by it.

But in order to do this, it is clear that the Congress of Fruit-growers must be recognized as the national institution. We have no doubt that this will be the case; because it was called into existence, not by any state or local society, but by three of the oldest societies in New-York, Pennsylvania and Massachusetts; because it is composed of representatives from all the horticultural societies in the country; and because it has the cordial good wishes of intelligent horticulturists on all sides.

We are induced to refer to the matter at present, more particularly, by a "*Circular*" before us, which purports to come from a committee of the North American Pomological Convention, and has been sent out from Albany to gentlemen in various parts of the Union, appointing them members of state committees, to collect information on fruit culture in various states of the Union.

It is, perhaps, worth while to examine a little into the history of this circular; because, if its claims are allowed, then it is clear that we are to have, not one, but two conventions, claiming to be the national body of pomologists and fruit-growers,—a circumstance which can only result in greater general disorder and confusion, instead of greater general order and system.

The New-York State Ag. Society called and held a state pomological convention at Buffalo in September last. It was largely attended by members, not only of this, but of other states, and was productive of much good. It was, however, as far as we can judge, really a state convention; for it was called by the state society, organised by the president of that society, and dissolved without the appointment of a single standing committee or board of officers; dissolved, only to be called together anew by the state society whenever and wherever the latter should hold its annual fair. Some two or three members, fond of a good name, did, to be sure, succeed in having it called the "North American Pomological Convention;" but that, we looked upon as a compliment to the gentlemen collected together by the fame of the state fair, from various parts of the Union, and who also attended the meetings of the convention with great interest. The fact that all power, authority, and even existence of the convention, as a distinct body, were quietly surrendered at the close of the convention to the state society, showed, we think, conclusively, that no step was really taken towards making it a permanent national institution.

But the circular before us purports to come from the "Committee of the North American Pomological Convention." Who compose this committee? The paper is not only entirely anonymous, but Dr. WENDELL, of Albany, a zealous amateur and friend of pomological progress, (and who, we notice, is appointed, by the anonymous committee in the circular, chairman of the new committee for this state;) this gentleman, acting in the sincere desire to unite all the ability in the country in one national association, proposed, when the Congress of Fruit-growers was being made a permanent national institution, to merge the material of the two conventions into one. On inquiry, however, it was found, as the lead-

ing members of the Buffalo convention admitted, that nothing remained of the latter association; that there was no committee, and no board of officers to confer with; and, in fact, that it was only a convention which had been assembled by the state society, achieved its object, and had been dissolved.

On first examining this "anonymous circular," we supposed that it might emanate from the New-York State Society. Not being willing to believe, however, that the state society would so far go beyond its natural province, as to imitate the course taken by the Congress of Fruit-growers, and endeavor to weaken its influence by appointing committees in all the states of the Union, to collect information on the subject of fruit culture for national purposes, we have made inquiry regarding the authenticity of this circular, as connected with that institution. The result is, that the state society has never authorised or recognised the existence of this or any such circular.

It is, therefore, no more than proper that we should apprise the gentlemen who have received their appointment in the anonymous circular, that, as the state society does not recognize it, and as there is virtually no such body as the North American Pomological Convention in existence, they have received the compliment of an appointment by a committee which does not exist; or by an authority altogether unknown.

We should greatly regret to see the appearance of such a paper, if we supposed it would have any influence on the public mind. But the anonymous circular will, we predict, fail in producing the desired effect. The majority of intelligent horticulturists, pomologists, and fruit-growers of the country at large, are enlisted, heart and soul, with the only national association,—the Congress of Fruit-growers; and several of the gentlemen in other states, who have been appointed on the committees of the New-York State Society, have already informed us that they could not act with, and did not approve of the step taken by that society.

Of course, the influence of this journal, (which so far from being local, now circulates from Canada to Louisiana, and which aims at the general good first,) will be entirely given to the interests of the Congress of Fruit-growers, so long as that body is faithful to its proper objects. On the other hand, we will gladly assist, in our humble way, every effort for horticultural progress in our own state society, so long as its plans are kept within their proper limits, where we feel certain, under the new board of officers, they will be confined.

One word more. It has been (perhaps ignorantly,) stated, in one or two of the agricultural journals, that an eastern or sectional character would necessarily be given to the Congress of Fruit-growers. The very composition of the association (by representation,) forbids this; and so far even from confining its meetings to the Atlantic states, they will, when the body is in full operation, be extended as far west as Cincinnati and St. Louis.

This is a matter of larger importance than any other in horticulture; and we therefore earnestly call on all fruit-growers, who do not see it in this light, (if there are any such,) to lay aside sectional feelings, and join in bringing about a distinct, general, public benefit.

THE POMOLOGICAL CONVENTION AT NEW-YORK.

BY YARDLEY TAYLOR, LOUDON COUNTY, VA.

Being a lover of good fruit, and desiring to see its cultivation extended, I have read with interest the articles in the Horticulturist, and other kindred publications, on this subject, as well as the proceedings of the late Fruit Convention at New-York. That convention, as a body, could hardly be expected to perform, in one session, all that it may ultimately accomplish, even in any one department. It may be justly said to have made only a beginning. Yet, if no other benefit should be obtained than the personal information imparted, at the time, most, if not all, of its members would be amply repaid for the expense and time spent while in attendance. Every member of that convention seemed to manifest not only a willingness, but a desire, to impart to others all the information he possessed in relation to fruit, its culture, &c. This was one of the most pleasing features exhibited; and must be looked back upon with much satisfaction by all its members.

The official acts of the convention have elicited commendation from the public press generally; yet, in some cases, justice has hardly been done to its motives. In a late number of the Cultivator, in an article alluding to the small number of fruits recommended for general cultivation, the inference would seem to be made, that the committee, to whom the subject was referred, had hardly done its duty, or that there were no other fruits worthy of general cultivation; for with all the talent and ability of that committee, they could not agree upon a larger number,—as scarcely one variety could be named, but what some objection was made to it, in one section or other. Whether this inference was intended or not, it struck me as doing the committee injustice. I well remember the report of that committee; and that was, that from the nature of the subject referred to them, and the necessarily limited time of the committee, they could not, at present, give the subject all the attention the importance of it demanded; but they would make a beginning, and report a small number of fruits, such as were generally known, and that, at some future time, the list might be increased until it should include all worthy of cultivation. This was all the committee could do at the time; and no one, who was a witness of their labors, would say that they were idle.

A member of the convention urged upon its consideration the propriety of a committee, to bring in a list of recommended fruits, as also a list of rejected fruits. This proposition was considered premature by the convention.

Dr. Valk, of Flushing, has been entertaining the readers of the Horticulturist, in advocating a great reduction of the varieties in the catalogues of most nurserymen; and appearing to infer, that from the great number enumerated they could not all be good; and that it was hardly honest, or at least, not right to keep so large a number in cultivation. But in a late number, the Dr. has an interesting "Chapter on Pears," in which he gives an extract from a correspondent in Belgium, whom he had requested to give him a list of those "he knew to be the best in that country." The quotations from that correspondent are va-

luable, and contain hints worthy of consideration by the growers of pears.

The list presented, containing, as it does, 266 varieties of pears, asserted "to be the best quality here, (Belgium,)" must have been something of a damper upon the Dr.'s "calculation previously made, and regarded as satisfactory." However, it is to be hoped the Dr. will continue his articles in the Horticulturist, as they are read with interest by one at least.

There is one consideration, presented by the foreign correspondent, that must have weight with any committee that shall undertake to prepare, either a list of recommended or of rejected fruits. Where shall the line of discrimination be drawn? Shall those only be recommended that shall prove good in all and every situation? Then the list must be made small indeed. Shall all be rejected that do not prove good in all soils and situations? Then many varieties that are first rate in many localities, must be set aside. In Belgium, it seems, (and the remark applies here with much greater force, owing to our widely extended country,) that "some pears are influenced by culture, either on the quince or not. Indeed, some do not give satisfaction, unless on the quince roots; and some do not thrive on these roots at all. Many only flourish as espaliers; others, again, only as standards. Some, if on quince, must be in a cool and moist soil; if on natural stocks, the soil to be warm and rather dry. Some are good in all soils proper for the pear. Some are only fine on the pear stock, and some on either."

The diversity of soil and culture necessary for some varieties, that are considered fine, must influence a committee in forming their list; and this diversity of soil and culture should be given, so as to enable persons to make a selection suitable to their locality. But this will require time, and cannot be done without more experience than we at present possess. In the vicinity of Boston, where the cultivation of the pear has been practically attended to for some years, they are prepared to say what kind of soil and culture may suit particular varieties; yet we can hardly expect that their experience will suit all sections of our widely extended country, where the soil and other influences may be very different. The facts there ascertained are valuable, and well worthy the attention of all who design to cultivate this fruit; yet we can only by experiment determine whether they will suit other localities.

The same observations will apply, more or less, to other fruits. An apple that, at the north, may be a first rate winter fruit, by transplanting it south will probably be only a good fall fruit. There is a degree of temperature necessary to bring every fruit to perfection; and when this perfection is attained just at the commencement of cold weather, that fruit will keep much longer than if it had reached that state of perfection a few weeks earlier. Some apples that are fine in New-York, and further south, will not ripen sufficiently in the vicinity of Boston to be of any value. The Newtown Pippins and Yellow Bellflower are of this class, while south of New-England they are of the best quality. And it is more than probable that the highly prized winter fruit of New-England, by being introduced here, will be only good late fall fruit. Our temperature here will be likely to bring them to perfection too early; so that they will be too ripe at the commencement of winter to keep long. However, we are going to try them, and that will settle the point whether this theory is true or not.

Looking at the subject in this light, it

seems that the convention will not be able to make out a large list, as suitable for general cultivation, in our widely extended country. The same variety of fruit may suit the same degree of latitude to any distance westward; but the difference of temperature, in going north or south, may have an injurious influence, and render it worthless. And yet, it would be hardly right for the convention to reject a variety that was good at one extreme, merely because it was not so at the other. I understand the design of the convention to be national in its character. Hence, it may ultimately be proper for it to recommend all good fruits, and designate the section of country where they are so. To recommend only those that are proper for general cultivation, would be to leave out many valuable varieties, in particular localities, and make the list a local one; and then to include all others in a rejected list, would be equally unjust.

YARDLEY TAYLOR.

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Mr. TAYLOR's views will be responded to by every judicious reader. If the *State Fruit Committees* will prepare full returns to all the queries for information in the circular of the General Fruit Committee, published last month, we think the Congress of Fruit-growers, at its next meeting, will be able to present a mass of information, regarding the value of varieties, in various parts of the Union, such as has never yet been laid before the public. ED.

THE BELGIAN WINDOW GARDEN.

BY DR. LINDLEY.

THOSE who are debarred from the enjoyment of a GARDEN by sickness, residence, or fortune, should take a leaf out of the book of the French and Belgian ladies, who succeed, by means of double-glazed windows and other contrivances, in providing themselves with an ample supply of fresh flowers at all seasons of the year. With us, the first object of the dwellers in towns is to buy plants, the next is to provide for them. Elsewhere it is thought more advantageous in the first instance to secure the means of keeping a plant in health, and that being accomplished, to obtain it. We will not be so uncivil as to reproach our fair countrywomen with herein indulging in that sort of caprice which is vulgarly called putting a cart before a horse; but we shall confine ourselves to an explanation of the manner in which other persons proceed, leaving all who are concerned to form their own judgment in the matter.

"In Belgium," says M. VICTOR PAQUET, "wherever you go, you see spaces between double-sashed windows filled in the winter time with the most charming flowers. Elsewhere the balconies are turned into green-houses, and you may find on the fifth or sixth floor a miniature green-house gay with the brightest flowers and the greenest foliage. In Paris there are many such contrivances, especially two on the fourth floor of a house in the Boulevard de la Madeleine, at the corner of the Rue Caumartin. Here are to be found the rarest plants. Camellias grow in the open ground. Passionflowers cling to the columns; the creeping fig forms a carpet upon the walls, and water-plants start up from tiny basins curiously contrived in the solid brickwork. By turning a screw a stream of limpid water flows down a rock, from whose crevices start up Ferns and Lycopods and such things. And what is it that adjoins this little paradise but a bed-room! The first beams of the morning sun throw upon the bed of the owner the shadows of Palm-leaves and Bananas, or of garlands of Passionflowers."

This sort of garden, though on the fourth floor, is, however, rather too ambitious for everybody's taste, and therefore we agree

with M. PAQUET that the little Belgian window-gardens are upon the whole more likely to meet the means, if not the fancy of the mass of mankind. We therefore borrow from him the following figure and description of one of them, which has now become extremely common. Let figure 46 represent the outside of this window-garden, and 47, a section of it, together with the window to which it belongs. A sloping roof of glass is carried outwards from the middle cross bars of the sash in such a way that the upper sash allows light to enter the room freely. The lower sashes open as usual by a pair of folding leaves as wide as the window frame. A pair of brackets carries the floor which projects beyond the walls of the house. Shelves are fixed to uprights next rhe window-leaves, and the sloping roof is raised or depressed by means of a rack, which is easily reached from the inside."

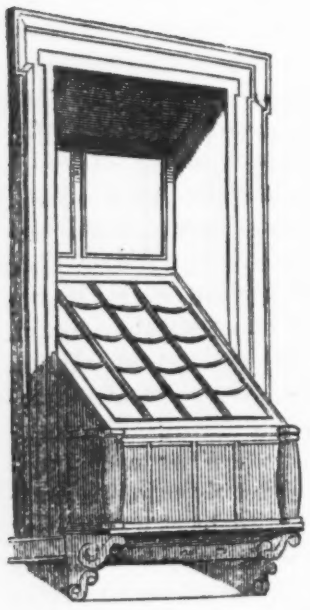

Fig. 46.

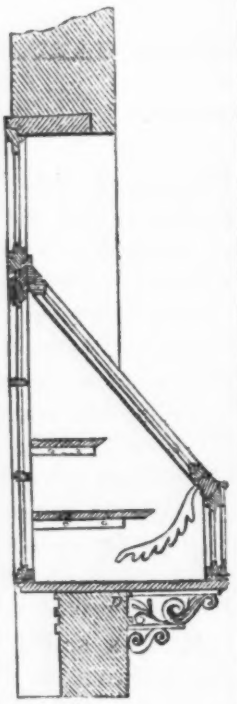

Fig. 47.

It is obvious that this contrivance possesses all the advantages of a Ward's case, without its inconveniences. Being placed on the outside of a house, it occupies no space that is otherwise required. As the glass next the room will always be warm, there will be no condensation upon it to conceal the plants which the window-garden contains. The folding leaves render it easy to get at the interior, and in towns water could be readily laid on for the purpose of moistening the plants when it is required. Such little contrivances would suggest themselves to any ingenious mechanic. A place of this kind might even be heated in severe weather by a pan of boiling water, or protected by a woollen covering thrown over it at night. In short, it seems to be of all things the best adapted to the purposes, as well as means, of those to whom window-gardens would be acceptable. In such a place it would be perfectly practicable to have all sorts of forced flowers in spring and winter; Roses in summer, Pelargoniums in autumn. A thousand pretty plants might be selected for variety, and the whole would be a most agreeable amusement for those who are neat, careful, and skilful.

A model of this Belgian window-garden was most obligingly forwarded to us from Boulogne, by our good correspondent, Mr. CRUCKSHANKS, and shown to the Fellows of the Horticultural Society. It teaches us several things. A rolling blind is made to work in the inside, so as to screen the plants from too much sun, when placed in a southern aspect. A trellis-work of wires is carried up the ends, and adds much to the appearance of the little garden. Here thrives Maurandya Barclayana, together with the little Tropæolums of Chili. The bottom should be guarded by a raised edge next the sitting-room, so as to form a shallow box at least 6 inches deep; this is to be filled up with damp moss, in which the pots are plunged, and by which they may also be covered. Attention to these matters has been found by experience to be essential. We would add moveable ventilators at the front and sides, so that air might be given when it would not be prudent to raise the sash.

Such little details are what constitute the secret of success; and now that the plans of construction are intelligible, and that many are, as we believe, preparing to adopt these gardens, we must offer some hints in a general way.

The advantage of such an apparatus consists in its separating plants from a sitting-room when they are not wanted, and introducing them there the instant they are

wished for. Open the doors, and the garden forms part of the room; close them, and the apartment is relieved from the presence of the plants. But, what is of much more importance, in the latter case the plants are themselves completely relieved from the fatal atmosphere of the apartment, —not fatal, indeed, if inhaled for a few hours at a time, but certainly destructive if endured for long.

What, it may be asked, is there in the air of a sitting-room which plants are thus unable to endure? Can anything be purer than the atmosphere of an English drawing-room? Perhaps not; but it is this purity which in part inflicts the injury. Plants would thrive better if it were otherwise, but it is more especially its dryness. Let any one measure the moisture of a sitting-room and the open air, and he will see how great a difference prevails. We have this moment tested it by Simmons's hygrometer; in the open air this instrument indicates 40°, in a sitiing-room 60°.

When plants are kept in a dry atmosphere, they rapidly lose their water of vegetation; the sides of their pots are robbed at the same time; and it is impossible for plants to suck out of soil thus partially dried the moisture demanded for the sustenance of their exhausted foliage. Such a state of things is inseparable from a sitting-room. To render the latter congenial to plants it would be uninhabitable by ourselves. The extent to which plants are injured in a common sitting-room is strikingly illustrated by the condition of cut flowers. Let two clusters of fresh gathered flowers be introduced into a sitting-room; place the one in the mouth of a narrow necked jar of water, and arrange the other upon such a shallow pan of water as a deep dish will furnish. It will be found that the latter will be perfectly fresh days after the former are faded. The reason is that in the narrow necked jar the flowers have no access to water except through the ends of their shoots, and are surrounded by a very dry air; while in the flat dish they are able to absorb abundant water, because a large part of their surface is in contact with it, and are moreover surrounded by air incessantly moistened by the vapor that continually rises from the dish.

Of this we may be sure, that darkness, dust, heat, want of ventilation, and all the other calamities to which plants in sitting-rooms are subject, are as nothing compared with the inevitable dryness of the air; which indeed acts injuriously, not merely by exhausting plants of their water of vegetation, but by lowering the temperature of the pots in which they are grown, in consequence of the evaporation constantly taking place there.

What makes the evil greater is, that the plants which are purchased for sitting-rooms are invariably brought into high condition by being grown in a damp atmosphere. They are transferred from the hands of skilful gardeners, armed with the most perfectly constructed forcing-houses, into the care of inexperienced amateurs, whose means of maintaining a plant in health are something considerably less than nothing.

A case will illustrate this: A Rose bush is bought in the market, fresh and trim, with one or two flowers open, others in bud, more still younger, and many but just peeping out. From such a specimen nothing, it would seem, can result but a long succession of beauty. But this charming thing, so fresh and promising, was, perhaps, a few hours before, the inhabitant of a damp green-house or pit, where its leaves were formed in shade, and their surface softened by a daily bath of artificial dew. It is suddenly conveyed to a sitting-room; its leaves shrivel up under the withering influence of its new habitation; the fountains of life become dried; the young flowers, starved by want of their accustomed food, drop off, the leaves follow them; the green-fly or red spider attacks the suffering remains, and a week or two are sufficient to witness the destruction of all the buyer's hopes.

We appeal to everybody's experience for our proof that this is an ordinary case. But a Belgian window-garden removes the difficulty; in such a place a plant is kept in precisely the circumstances most conducive to its health; light and moisture foster the young shoots, and the softened air provides a due supply of all that is indispensable to vigor.

To those who propose to engage in this kind of amusement we would add a very few words of empirical advice. 1. Always use

rain-water; 2. Always let it be milk-warm; 3. To every quart of rain-water add half a grain of nitrate of ammonia, or sulphate of ammonia; 4. Invariably keep up a continual current of *warm* fresh air through the garden whenever the circumsrances of the season will permit; the easiest method of accomplishing this, which is equally important in large as in small houses, and yet is almost universally neglected, we shall consider on a future occasion.—*Gardener's Chronicle.*

PRACTICAL HINTS TO AMATEURS.

BY AN OLD DIGGER.

You may plant peas, for the earliest crop, as soon as the frost is out of the ground, and it is fit to dig. Choose a warm, sheltered spot, and use rotten stable manure and ashes in preparing the soil, before sowing the seed. Peas don't mind a hard frost, even when on rich or too high ground; and therefore the earlier you plant, the earlier you pick. If you have to plant in the open garden, you may hasten your crop by sowing the drills east and west, and setting a board on the ground edgeways, on the north side, to shelter each row. "Prince Albert" is one of the best early sorts.

Rhubarb is an invaluable plant to those who like a spring tart. You may have yours ready to cut a week before your neighbor's, without the trouble of forcing, if you set your plants in a border on the south side of a wall or tight board fence, and take the precaution to loosen up the soil, and cover each crown of roots with a bushel basket full of black peat earth the autumn before.

Some men are marvellously fond of *pruning*, and go about cutting a limb here, and a branch there, without "rhyme or reason." Don't prune your standard trees, unless the branches are so unnatural as to crowd each other; and even then, they should be thinned out as little as possible to answer the purpose. Or, in the other case, where the tree has got into a stunted and feeble state, when a shortening-back the terminal shoots, along with a good dressing of manure, will make it push out strong, healthy shoots again.

If you wish to get early crops in your kitchen garden, make some boxes two feet square, and a foot high. Knock them together out of any rough boards; and if you cannot afford to glaze the whole top, (and, to say the truth, it is a waste of money,) put a single light in—a 7-by-9. If you want a hill of early cucumbers, melons, or tomatoes, dig out a hole of the size of the box, and two and a half feet deep, fill it with fresh stable manure mixed with litter, tread the manure down firmly till there is room for six or eight inches of good light soil. On the latter plant your seeds. They will soon start, with the slight warmth of the manure, and the box will protect them at night, and during cold and stormy days, till the season is settled. Every mild day you will, of course, raise it up on one side an inch or two, for fresh air; and in positively warm days, remove it for a few hours altogether. In this way, you will get a crop, at small cost, a long start in advance of the unsheltered growth along side, and have none of the bother and vexation of *transplanting* from hot-beds. The boxes cost very little, if you make them yourself; and if laid away as soon as there is no fur-

ther need of them, they will last a dozen years or more.

When you are planting a tree or shrub, don't be penny-wise and pound-foolish; in other words, so anxious to have it look large, as to be unwilling to cut off a single inch of its top to balance the loss of roots. Remember that if your tree would grow six inches if left "unshortened," it would grow twelve if properly shortened, besides making far healthier shoots and bigger leaves, to say nothing of its being five times as likely *not* to die.

If you are about to turn "orchardist," never buy a large quantity of trees of any nurseryman, on the strength of his own "extensive" advertisements. It is easy to say fine things in print; such as "immense specimen grounds," "50,000 trees, carefully propagated under the direction of the proprietor," &c. &c. Go and see for yourself; and very likely the "immense specimen ground" may turn out to be a dozen old trees in a grass plat, and the nursery a wilderness of confusion. Never, in short, buy a large quantity of fruit trees of any man who is a stranger to you, without inquiring first all about his accuracy, from customers who have dealt with him, and proved his sorts. Such people, who have tasted his quality, are not very likely to tell "long yarns," though advertisements sometimes will.

The neatest and most perfect mode of grafting, is *splice grafting;* (see Downing's Fruits, p. 15.) It can only be done when your stock and scion correspond pretty nearly in size; but the *amalgamation* is done in short-hand. Tie the wound over neatly with a strand of matting or coarse woolen yarn, and smear the whole over with thick "shellac paint," and not one in a hundred will fail.

No large fruit tree is so readily "reformed" as a pear. Many a tree, of twenty or thirty feet high, that stands, at this moment, within ten rods of your door, and bears nothing but fruit that you would be ashamed to offer at a county fair, may be made to bear *bushels* of Bartletts, or something as good, in three years' time, by the expenditure of a couple of hours, in cutting back and grafting all the principal limbs as soon as the sap is fairly in motion. "Cleft grafting" is the readiest mode for this sort of subject; and a little practice will enable any one to perform it very quickly.

If you want to be successful in transplanting, don't be afraid of working in dull weather. If you are shy of a "Scotch mist," buy an India-rubber macintosh. Nothing is so cruel, to many sorts of trees, as to let their tender fibres parch up in a dry wind, or a bright sun. Such weather may be fun to you, but 'tis death to them.

Dress your lawns with a mixture of guano and ashes; one bushel of the former to four bushels of the latter. The earlier in the spring it can be put on the better, so that the rains may carry the soluble parts to the roots. A light coat of this, spread broad-cast, is much better for grass than any other manure.

The best top-dressing for a strawberry bed is *burnt sods.* Pile up the brush and rubbish you have at hand in layers with the sods, and set fire to the heap; let it smoulder away for several days, till the wood is pretty well burnt out, and the sods well roasted. Then overhaul the heap, chop and beat it up fine with the spade, and, after loosening up the soil in the bed, give them a coat an inch or two in thickness. It will give new life to the plants, and set them in a way to give you an uncommonly fine crop.

A FINE NEW EARLY PEAR.

BY DR. W. D. BRINCKLE, PHILADELPHIA.

It is very rare that, among new fruits, one is found of superior excellence, ripening either at a very early or very late period. The majority of seedlings produce fruits which mature at what may be called the middle season.

Good early pears are especially a desideratum, because it is precisely at that time, —about, or a little after midsummer,—that ripe fruit of any kind is scarcest.

We suspect that the variety, described and figured below, by our esteemed correspondent, Dr. Brinckle, will prove a decided acquisition in this respect. At the present time, the public are not inclined to take upon trust the character of any new fruit which is highly lauded, unless its reputation is well authenticated. We may therefore state that this variety has been exhibited, tasted, and has elicited high commendation, both before the Pennsylvania and Massachusetts Horticultural Societies. Col. Wilder, in a note, written last season, after tasting this variety, gives it the following character: "The Ott Pear is quite first rate, and I think, *in flavor*, surpasses the Citron des Carmes, Bloodgood and Bartlett."

We will add to this excellent testimony our own. Dr. Brinckle very obligingly sent us specimens when in perfection. What the Ott Pear may prove, as regards hardiness, productiveness, and adaptation to general culture, of course, we are not yet able to say; but that it is one of the highest flavored early pears yet known, is undeniable.

We suppose this new pear is not yet for sale in any of the nurseries, though no doubt its propagation has commenced about Philadelphia. Meanwhile, we give the following description and figure, by Dr. Brinckle, to awaken attention to the merits of so excellent a variety. Ed.

The Ott Pear.—This valuable new variety was exhibited, for the first time, in 1848, at the August meeting of the Pennsylvania Horticultural Society, and was considered of such decided merit as to be entitled to a special premium.

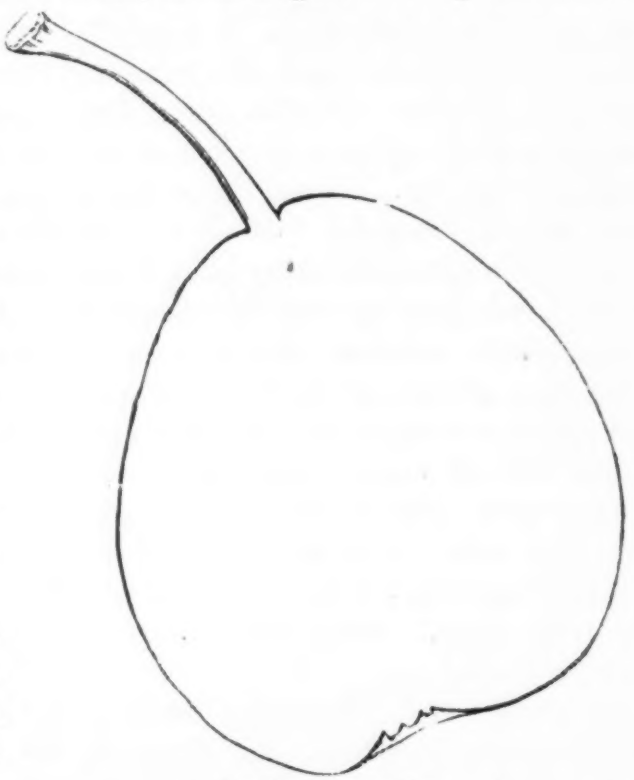

Fig. 48.—*The Ott Pear.*

It is a seedling from the Seckel, and originated with Mr. Samuel Ott, of Lower Merrion township, Montgomery co., about seven miles from Philadelphia. The original tree is about thirteen years old. Mr. Ott represents the fruit as being larger

than the Seckel; from which it differs in form, length of stem, colour and shape of seed, and especially in the time of ripening.

The annexed description is taken from specimens which he was kind enough to bring me:

Fruit small, two and one-fourth inches in length by two and one-eighth inches in its transverse diameter; form roundish, occasionally tapering a little to the stem; skin greenish-yellow, with considerable russet, and sometimes a mottled red cheek; stem a little curved, one and one-quarter inches long, of medium thickness, and inserted in a small cavity; calyx rather large, reflexed, and set in a shallow basin; core small; seed of medium size, black, with a prominent point at one of the corners of the blunt end; flesh whitish-yellow, and melting; flavor saccharine, rich and highly aromatic, resembling closely that of its parent, the Seckel. Ripe early in August.

THE FRINGED CHINESE PRIMROSE.

To amateurs, who like "really good things," that is to say, plants with good foliage, excellent habit of growth, and handsome and abundant flowering properties, the *Fringed Chinese Primro e* may be recommended as something worth having.

It is a great improvement upon the old Chinese Primrose, so long known in our green-houses. The flowers and foliage are more than double the size of those of the old species, and the colours are much more lively. Our drawing is made from a plant sent us by N. J. Becar, Esq., of Brooklyn, who has been particularly successful in growing this variety from seed. Around the whole interior of this gentleman's Camellia conservatory, at Brooklyn, runs a walk, paved with marble, and bordered by that exquisite little evergreen plant, the trailing *Lycopædium*. The bed, along the outer margin of the conservatory, is filled with plants of this Fringed Chinese Primrose, from a foot to eighteen inches high, surprisingly luxuriant in habit, and covered with blossoms twice the size of those represented in the figure. When we say that these plants are continually in bloom, from December to May, and that they give an appearance of perpetual vernal freshness to the border in which they grow, it will be seen at once how much more valuable they are than most of the fugitive plants which fill up the green-house.

Though the Chinese Primrose is properly a perennial herbaceous plant, yet it thrives and flowers much more satisfactorily when treated as an *annual*,—fresh seedlings being raised every year for the winter's supply of flowers; the old ones cast away. The seeds ripen from April to June; and fresh seed sown, as soon as ripe, in pots of rich sandy soil, placed in a partially shaded frame, in the open air, will produce fine blooming plants for the coming winter.

Mr. Becar has raised the beauty of his stock of Fringed Primroses far above that of those commonly grown, by selecting only those seeds produced by the very largest and finest flowers, and those of the finest shades. In this way, he has obtained plants with flowers of a rich, clear, purplish pink, and others of which the flowers expand a pure white, and change to delicate lilac or flesh colour.

As no plants adapt themselves to the air of the parlor or sitting-room better than the

Fig. 49.—The Fringed Chinese Primrose.

Chinese Primroses, they have become decidedly popular among those whose greenhouse collection is confined to a single window. In England, a *double* variety is cultivated, which, so far as we hear, has not yet been introduced into this country.

DESIGN OF A VILLA, NEAR BOSTON.

A FRIEND in Boston has very kindly sent us a view and ground plan of a villa, in the Italian style,—Langwood, the residence of Mr. WM. BAILEY LANG, which we give as the frontispiece of the present number.

We gather the following description of this villa from his letter:

"Wyoming is a charming rural neighborhood, six and a half miles north of Boston. Being located on the margin of one of the most picturesque lakes in New-England, it has lately become quite celebrated for the beauty and variety of its natural scenery. It occupies several hundred acres of land, and was once owned by a recluse, whose aversion to neighbors and society caused its rich green lawns, deep glens, foaming cascades, and numerous running streams, to remain comparatively unknown for twenty-five years; but lately, the property has been purchased by a company of gentlemen, who have laid it out in lots, varying from two to eight acres each, for cottage and villa residences.

"Langwood," the seat of Mr. LANG, at Wyoming, is an agreeable and commodious villa, built of rough stone. It covers a space of 78 by 37 feet. The exterior, as you will see, is expressive alike of elegance and commodiousness; and the interior arrangement, which is very simple, will be seen at a glance by an inspection of the plan of the principal floor."

We may add to the above, that the fine back-ground of trees has been omitted by the engraver, in the elevation presented, so that justice is not done to the rural character of the site, or the scenery which surrounds this residence; which, together, are far from presenting the meagre appearance shown in the plate.

FOREIGN NOTICES.

MR. BARRY IN LONDON.—*London, Dec.* 14, 1848. As the Europa sails to-morrow from Liverpool, I thought I would send you a short gossip touching a few of the more interesting matters that have caught my attention since I arrived in England.

The winter, so far, has been remarkably mild. The lawns are as bright and green as ours in the middle of May, and the gardens are yet gay with Roses, Chrysanthemums and Laurustinus, and other flowers. I am delighted, with every step I take, with the profusion of evergreens that fill up every little space throughout the cities. Laurels, Bays, Yews, Cypresses, Aucubas, Hollies, Junipers, Rhododendrons, Ivys, &c., clothe every wall and door yard with a verdure as fresh and luxuriant as we could hope for in the month of June. This is some compensation for the muddy streets and rainy, murky weather that continually prevails. I have not seen the sun half a dozen times since I have been here, and then only glimmering through a fog. I eat breakfast at eight in the morning, by candle-light, and dine at four in the afternoon, by candle-light; we are hardly aware of its being day, till night returns again. It takes three or four days to accomplish the work of one.

Large quantities of American apples have been brought into Liverpool recently, but the most of them have been of indifferent quality, and badly gathered and picked, and hence they do not command high prices, nor do us any credit; nor can the shippers gain by the operation. There is an unfailing market here for our orchard products, but to make the shipment of them profitable, it is absolutely necessary that select varieties be sent, that they be carefully hand-picked and packed in the best manner. One barrel will then sell for as much as three or four; and the freight, which is the great item, will be no more on a barrel that will sell more readily for $5, than one that will bring only $2. Many of the apples I see here cried up as "nice American apples," "beautiful American apples," &c., would scarcely sell at all

in our market; yet they are sold here at 3 to 6 cents each.

The English people have fairly given up growing apples for market, unless it be Codlins, &c., that come in early for cooking, and *Beaufins*, &c., for drying. They see it will be impossible for them to compete with American orchardists. Yesterday I examined two or three hundred varieties in the fruit rooms of the London Horticultural Society, and among them all there was not a single large, clear coloured fine looking specimen. One would suppose, at first sight, that they were all wind-falls, gathered from under the trees last August. The *Roxbury Russet*, *Fall Pippin*, and *Rhode Island Greening*, were among the best specimens, and they were not half the size we grow them. The most esteemed varieties pointed out to me by Mr. THOMPSON, such as *Pearson's Plate*, *Warmsley's Pippin*, *Pomme Royal*, (not our Pomme Royal) *Golden Harvey*, *Sturmer Pippin*, &c., are small inferior looking things,—in size from that of a small *Pomme Gris* to that of a *Siberian Crab*,—but they are generally harder and richer than ours. The Newtown Pippin and Roxbury Russet come nearer the English taste than any thing we cultivate. I had some Northern Spy and Melon with me, that I have here now in London, in fine condition. They have elicited the admiration of all who have seen them. There are indeed, no such apples to-day in England. The Northern Spy may be sent to Covent Garden market, just as well as to Fulton or Washington markets, New-York. The pears in the markets here now, are from France or the Island of Jersey. They come in half-bushel baskets, containing 50 to 100, according to the size of fruit. They are packed in very dry soft meadow hay—a layer of this hay two or three inches deep, is laid on the bottom, then a layer of fruit, then another of hay, and so on to the top,—the fruits are not allowed to touch, and in this way they go any distance with entire safety. I saw at Liverpool little baskets of *Glout Morceau* and *Chaumontel*, 50 in each, sold for $3 to $4 each, to the confectioners and market-women to retail.

In Covent Garden Market, which is head-quarters for all rare and choice Garden commodities, I see fine *St. Germains*, (the old one,) *Marie Louise*, *Passe Colmar*, *Winter Nelis*, *Beurre Rance*, *Easter Beurre*, *&c.*, sold at 12½ to 18¾ cents each. If we ever succeed in raising pears beyond what may be required for home consumption, they will find market and good prices here. Not one person in a thousand, I might say five thousand, ever tastes a fine pear. There is also, a fair supply of new potatoes from Holland, sold at about twenty-five cents per quart. There is a plenty of Asparagus, Brussels Sprouts, Rhubarb, Mushrooms, and all other vegetable luxuries. The Flower Market is very rich. Bouquets are made up very tastefully by women who buy the flowers from the Florists and make a business of preparing and selling the bouquets. You can have a nosegay for a penny—a single rose and a leaf. For a shilling (25 cents) you can have a pretty bouquet of Roses, Primroses, Heliotropes, Azaleas, &c. Go higher, and you get Camellias, Epacris, &c.—higher still, and you get Orange Flowers, Cape Jasmines, Cyclamens and Euphorbias; and if you offer half a guinea, ($2.50) you get a gem of beauty, combining all these, arranged with exquisite taste. So much for fruits and flowers, and I find that I must close on that head.

I found on my arrival in London, that the Smithfield Club was holding its Annual Christmas Show of Fat Cattle. I embraced the opportunity to see it. The animals were all enormously fat, even to a downright deformity,—in many cases, huge unwieldly masses of fat, not inappropriately termed by some, "animated oil-cake and beet-root machines." The fattening process in the case of these animals appears to be carried to an extreme; no market requires it, and no profit can result from it, nor is any expected, I believe.

The purposes of the club are to induce experiments that will test the capacities of the various breeds for fattening, and the effect of different sorts of feed and modes of feeding. It undoubtedly brings out results that will be highly useful to the breeders and feeders of animals. Those who are engaged in these experiments are able to carry them out to any extent, and the public at large have the benefit of them. No restrictions as to feed are imposed; but the articles of food must be certified, as well as the age of the animals. The oxen and steers are divided into six classes, according to age, weight, &c.; cows and heifers into three classes, according to age; sheep into ten classes, according to breed and age; pigs into four classes, according to age. In the first class of oxen and steers, three premiums, amounting to £50 ($250) were awarded; in the second the same; in the third $225, and so on. From this you will see how considerable, I ought to say how princely, the premiums are; and so they ought to be, for most of the competitors are Princes, Dukes, Earls, and other nobles.

His Royal Highness Prince ALBERT, the Queen's husband, is an active member of this Club, and is showing masterly skill in the breeding and feeding of various sorts of live stock. He carried off the first prize of £30 ($150) in the first class of oxen and steers, for a Hereford ox 4 years and 6 months old, fed on oil-cake, roots, been meal, hay, and green food. The animal was very attractive. When I saw him, three of the best artists were taking his portrait. He was a low, small animal, of a dull red colour, with a white face and chest. He belongs to what is called the white faced, or new Hereford breed. There were specimens of Short Horns, Devons, Scotch, Welsh, &c., all the most perfect of their kind. The show of pigs and sheep was varied and highly interesting; but I will not trouble you now with further details. P. B., *in Gen. Far.*

Grafting Humbugs.—One of the most learned writers in the art of grafting, M. Thouin, who has taken the pains to count up, and classify, and christen, all the different styles of grafting, calling them after this fashion *à la Banks, à la Buffon*, to the number of *forty* different varieties, enumerates last the Virgilian graft; this was thus effected: a hole was bored across the diameter of a walnut tree, and a vine branch was passed through it while yet in connexion with its parent stem; after a little time the branch was cut off, and it was said it would then be found united to, and growing upon, the walnut. This has been very properly questioned, not as to the fact, but as to the nature of the union. It was not a true graft; the wood of the tree may have supplied nutriment to the branch, not by union of its vessels, but by the decay of the parts surrounding it. From the nature of the case, such a union could be but short lived. This may therefore furnish us with a clue to the explanation of some of the monstrous vegetable unions which the perverted ingenuity of man has endeavored to effect. We are not, however, to consider our ancestry as the sole perpetrators of these various freaks; they prevail even to the present day. The traveller in Genoa or in Florence may without any difficulty, beyond the pecuniary one, probably of some magnitude, become the fortunate possessor of a tree almost as wonderful as those of which casual notice has been taken. In a classically-formed flower-pot you see a plant of some size, and of a graceful but most anomalous appearance. On this side you would say it was a jasmine, heavily laden with odoriferous flowers; on the other it is a rose blushing with thickly-clustered blossoms; and, again, on the third aspect, it is a honeysuckle bursting with sweet-smelling buds. Stranger still! look at the stock, and by the leaves of the few branches which it is allowed to put forth, you are ready to believe it to be either a myrtle, or, as the case may be, an orange or a pomegranate. Of course this is a mere cheat, spite of the earnest asservations of the horticulturists, who protest that the various plants are all grafted upon the common stock of the orange or myrtle. But it is a cheat of a most ingenious kind, such as would perhaps scarcely be discovered by any but an acute and botanical eye. This *lusus* of art is thus made: the "stock," of myrtle or other plants is headed, cut down to a proper size, and then tenderly *bored* with an auger right through its middle until the instrument comes out at the roots, when it is withdrawn. The thin and flexible stems of three young and thriving plants of jasmine, rose, and honeysuckle, are passed up together through the now hollow stock, until their summits emerge at the top of it: the four plants are then carefully potted in a good-sized pot, with a rich compost around their roots. With much care, in time, an elegant compound plant makes its appearance; the horizontal enlargement of the three enclosed stems forces them into such close proximity, that they wear all the appearance of being united into a common stem, and in this condition at the flowering period, they are exposed for sale, and fetch good prices as triumphs of horticultural skill, not over the obstinacies, but actually over the *laws* of nature! It was no doubt by some such trick as the preceding that the wonder-loving eye of Evelyn was deceived when he was shown the rose *grafted* on the orange tree, and the Plinian marvel had doubtless its origin in a similar ingenuity.

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Grafting Grain.—Some attention has lately been paid to the possibility of grafting Monocotyledonous plants, and amongst others, experiments have been made on grasses. The results, as stated in a notice in the "Annales des Sciences Naturelles," for Sept., 1846, are so curious, that, without at all pledging ourselves for their accuracy, we cannot resist the wish to call the attention of our readers to the subject. Much has been done to improve the produce of some of our cereal grasses, but perhaps in general, at least in wheat, the bulk has been more affected than the quality. The Bristol Red, for instance, is extremely productive, but millers are very shy of buying, on account of its coarseness; and bakers who are so unfortunate as to receive flour made from it, are sure to be loud in their complaints, as it imbibes so little water, probably from deficiency of gluten. The great point is, if possible, to combine increased bulk with quality, and it would be at least worth trying some experiments in this direction, similar to those which we proceed to notice.

Signor Calderini, of Milan, commenced his experiments in 1843. Having observed that grasses have at each knot a shoot inclosed in the sheath of the leaf, which can be easily drawn out when the plant is young, he introduced some of these into plants of the same species, having previously removed their young shoots, and found that more than half of them succeeded. He then extended his operations to grasses of different species, and succeeded in grafting Panic on Millet. The only difference observable in the grafted individuals was, that they ripened their seed rather later.

He then conceived the notion of improving the vigor of species by grafting delicate and tender varieties on robust stocks, more capable of contending against changes of temperature. Having observed the vigorous growth of Panicum Crus Galli in the rice fields, he replaced the young shoot or bud of the grass with that of rice, and found the grains produced by the grafted plant much larger than those of ordinary spikes. These grains were then sown, and he had the pleasure of seeing them from the first sprout more vigorously, and, in the sequel, quite free from the disease called *brusone*, which is so frequent in newly turned up fields, while ordinary grain sown in the same soil was less productive, and the plants diseased. The difference, both in the height of the

plants and in the produce, amounted to a third. The grains were of the same size in the two cases. He also observed that the new variety was less impatient of drouth, and, in consequence, expresses a hope that it may be possible to cultivate it where there is only sufficient water to keep the soil moist. *M. J. B. Gard. Chron.*

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Horse Chestnut Flour.—That the seeds of the Horse Chestnut contain a large quantity of flour is well known; and attempts have been made to convert them into bread. But the Horse Chestnut is bitter and acrid, and, in its natural state, unfit for human food. Our readers will therefore be glad to know that pure flour has been obtained from Horse Chestnuts by very simple means. M. Plandin, the discoverer of the process, gives the following directions for its preparation: The chestnuts are to be reduced to a pulp, to which an hundredth or even a fiftieth part by weight of carbonate of soda is to be added; the whole is then to be washed and strained. In this way samples of flour were obtained perfectly free from any bitter taste, white, and equal in every respect to potato flour, which, there is some reason to believe, will to a great extent be superseded by that extracted from the hitherto comparatively useless Horse Chestnut. *Gard. Chron.*

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Planting the Slopes of Railroads.—A Neapolitan ambassador at the English court, said that during a residence of ten years in London, he had eaten but one ripe fruit; and that was a *baked apple!*

Whatever allowance is made in this assertion for southern exaggeration, it is quite certain, that without the help of walls and *espaliers*, the greater part of the best fruits, particularly grapes, would not ripen in the open air in the climate of England; and it is very nearly the same with us. At this moment in England, the sides of the slopes or deep cuts, made by railroads, are considerably used for espaliers, wherever these cuts have revealed a rock firm enough to be used as the surface of a wall. A border or bed at the foot of the slope, is filled with good soil; peach and apricot trees occupy the lower part; grape vines, planted here and there, climb up above these trees, and may be extended over an indefinite space.

Although our country is less irregular in surface than Great Britain, and consequently the cuts of the railroads are less frequent and not so deep, there is, however, in this fact an example that we might follow with advantage.

In other sections, where these cuts have exposed fertile soil, they have tried plantations of vines supported by props. These are indeed, true artificial hills, which, when they have more or less of a northern exposure, are sheltered from the cold winds, and give a reasonable hope of the possibility of ripening the grape in the open air, without the aid of the espaliers. In ordinary seasons, the Belgians eat *verjuice* under the name of grapes; our epicures pay every year a considerable tribute to France, for the Chasselas de Fontainbleau, which is brought for them at great expense, and for which they are taxed accordingly.

The culture of the vine would give much better results on our soil, if, on one hand, we made use, like the English, of every spot favorable to the production of the grape; and if, on the other, we took care to limit ourselves to the cultivation of those kinds which ripen their fruit early—the only ones really adapted to our climate. *Journal d'Horticulture Belge.*

DOMESTIC NOTICES.

Horticultural Honor.—We notice with great pleasure that the Massachusetts Horticultural Society has voted Col. Wilder, who has, to the unanimous regret of the members, retired from the presidency, after many years of most successful labor, a handsome piece of plate, valued at a hundred and fifty dollars. Gen. Dearborn has also received a like token in the shape of the society's gold medal, as well as Mr. Teschemacher, the scientific Secretary of the Society, in a piece of plate of the value of fifty dollars. It is easy to see why public institutions are well managed in Boston—the associates not only select the most able men, but are never unmindful of the merit of past services.

Col. Wilder in the mean time, seems not to be allowed to rest on his laurels—for we notice that he has been appointed president of the new agricultural society of Norfolk county, and Councillor to the State.

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The Misletoe.—I have sent you, by express, a package of the seeds of the misletoe, which I trust will reach you in a good state of preservation.

As this plant is not so well known at the north as here, where it frequently covers the branches of large trees so completely as to make them present the appearance of magnificent evergreens, I will venture to say a few words regarding its growth, which may not be unacceptable. The novel effect of these trees covered with misletoe, is greatly heightened by the numerous transparent berries, which, at certain seasons, enliven every branch of the plant.

The seeds of the misletoe are deposited by birds

on the bark of the trunks and branches of trees; and the rootlets which they send out insinuate themselves through the crevices of the bark, and thus become incorporated with the wood.

The young misletoe plant seems readily to imbibe the ascending sap from the wood of the tree upon which it grows, and this it converts into a proper juice adapted to nourish its own structure, by the aid of its leaves.

The ascending sap of most trees being so nearly alike, the misletoe seems to grow with almost equal facility on a great number of different species. It is found here upon the persimmon, the honey-locust, and upon oaks of all kinds, and I think you can get it to take readily upon almost any deciduous tree. Yours sincerely, *Wm. Sumner. Pomaria, South Carolina, Jan.* 16, 1849.

.....

Early Peas.—Dear Sir: I recommend your readers who care for early peas, to try the mode recommended in the Horticulturist, vol. 1, p. 481. I did so last spring, and succeeded in getting a fine crop far ahead of any of my neighbors. It is very little trouble, and the result perfectly satisfactory. Yours, *A Jerseyman. Feb.* 15, 1849.

.....

The Horticulturist of Lynn.—We have been very much struck, on looking over the list of premiums awarded last year, by the Massachusetts Horticultural Society, with the number of times with which the name of one gentleman, appears there. It must be remembered, that so great is the competition, and so numerous are the cultivators about Boston, that it is by no means an easy task to carry off many prizes at the exhibitions which take place in that society. The gentleman to whose success we refer, is Otis Johnson, Esq. of Lynn. We have several times visited the garden of this most zealous and accomplished amateur, and have always been exceedingly gratified at the admirable system of fruit culture pursued there. A single walk through such a garden would be more instructive to thousands of our readers, than all the explanations of systems of pruning, training and subsoiling, that one could obtain in a fortnight. The numerous prizes which the products of that garden have carried away from the Boston shows, prove more conclusive than any commendation of ours can possibly do, the superior horticultural skill and intelligence of Mr. Johnson—who, by the way, we trust will pardon our thus publicly noticing what we cannot but think deserves public commendation.

.....

Perfect Camellias.—It is very rarely that any novelties are offered to the floral world, so well deserving of attention as the two new Camellias, which we observe in our advertising columns, are now offered for sale by Mr. Cadness, of Warren's Gardens, near Boston.

The flowers of these fine American seedlings exhibit the most exquisite form and colour, and are not surpassed, we may say indeed scarcely equalled, by any other varieties originated in either hemisphere, and we gladly recommend these two sorts to floricultural amateurs, as certain to give complete satisfaction.

.....

Ohio Fruit Convention.—We give the following brief notes made on looking over this interesting pamphlet.

Early Harvest Apple—regarded by the Convention as the best early apple.

Summer Queen—much esteemed as a fine fruit.

Early Chandler.—This variety, one of the sorts introduced into Ohio by Mr. Putnam, more than 50 years ago, is described as a valuable early sort—excellent for cooking, before full maturity, and then a fine dessert fruit. It is too tender for a market fruit. (We think, from this description, this variety is an old acquaintance of ours, under another name, and would be glad to verify our supposition by *specimens* at the season of maturity.—Ed.)

Golden Sweeting, is highly commended.

Jersey Sweeting—highly recommended—especially for stock feeding.

Fall Pippin—a great variety of opinion on this fruit, owing, no doubt, to a confusion between this and the Holland pippin, two very distinct sorts.

Porter—" a profuse bearer of fair, handsome, and valuable fruit in northern Ohio."

Rambo—great bearer, much esteemed, sometimes water-cored.

Westfield Seeknofurther—" has been grown on sandy loam, white-oak, clay and limestone soils, and universally decided first rate."

Springer's Seedling—a new, late-keeping apple, highly spoken of,—the fruit keeping in sound condition for a year.

Seever's Seedling—"tender, sub-acid, juicy, with a delicate pear flavor."

Rhode Island Greening—a good deal of difference respecting the merits of this popular fruit in Ohio—the opinion very prevalent that it had formerly been very fine, but of late years had declined in quality.

Mr. Elliot remarked that a supply of requisite food given to the trees would render them uniformly productive. He had found the application of leached ashes to cause the fruit of the trees mentioned by him last year, to become alike, (fair and good,) and he would recommend others to make similar attempts at improvements. The subject of *special manuring* was at this time exciting much attention. He believed that ten years from this, a description of the nature of the soil requisite to grow a variety perfect, would be as necessary to a work on fruits, as the description of a fruit."

Pears.—*Louise Bonne de Jersey*—fine in Ohio.

Duchesse d'Angouleme—" one of the best fall pears."

White Doyenne—" one of the very best."

Seckel—" acknowledged by all to be of the first class, and claimed by many to be exempt from

fire blight in all cases. Mr. ELLIOT has grown it upon the roots of the mountain ash, and the largest specimens he ever saw, were from a tree on the thorn root, exhibited at Cincinnati, in 1843."

GRAPES.—*Catawba* and *Isabella* "are, without question, the best varieties for out of door cultivation."

Mr. HAMPTON exhibited a *white* grape, a seedling from the Isabella, which is of good flavor, but rather thick skin; rather sweeter than the Isabella.

The following is the list of apples decided upon by this convention at their two annual sittings, viz:

FIRST RATE.

Early Harvest,	Golden Sweeting,
Summer Queen, (in southern Ohio,)	Am. Sum. Pearmain,
White Juneating, (for early ripening,)	Lowell,
Large Yellow Bough,	Jersey Sweeting,
Summer Rose,	Porter,
Early Strawberry,	Fall Pippin,
Red Astrachan, (for market,)	Cooper,
Wine,	Am. Golden Russett,
Rambo,	Roxbury Russett,
Westfield Seeknofurther,	Willow Twig, (only for long keeping,)
Belmont or Gate,	Green and Yellow Newtown Pippin,
Yellow Belleflower,	Swaar,
Esopus Spitzenburgh,	American Pipprin, (only as a keeper.)
Summer Queen,	

SECOND RATE SORTS—or those for cooking.

Geneting,	Gloria Mundi,
Early Chandler,	Gilpin,
Gault's Belleflower,	Baldwin, (dry rots in northern orchards,
Summer Cheese,	Michael Henry Pippin,
York Russet,	Cracking apple,
Maiden's Blush,	Kaign's Spitzenberg,
20 ounce apple,	Black apple,
Sweet Pippin,	Pumpkin Sweeting,
R. I. Greening, (with exceptions.)	Limber Twig.

The convention passed the following resolutions before adjourning:

Resolved, That this Convention, seeing the necessity of union in action among pomologists, recommend to the National Convention to be held in New-York, October 10, 1848, the appointment of a future National Convention, at a time suited to the attendance from delegates of State Conventions.

Resolved, That we recommend to pomologists throughout the States and Canadas, the calling of Fruit Conventions for the coming year, at such time as will enable delegates to attend the National Convention, without loss of time.

Resolved, That the next and third session of the Ohio State Convention of Fruit Growers, shall be held at Cincinnati, in the fall of 1849; the particular time to be left with the President and Secretaries of the State Fruit Committee, who shall give due notice through the Ohio Cultivator and other papers.

Resolved, That we now extend a cordial invitation to all the fruit-growers and nurserymen in this and other states, to meet with us and examine and discuss fruits next year, at Cincinnati.

The remaining 30 pages are occupied with an interesting detailed report on proved varieties, by the secretary, Mr. ELLIOT, with letters on fruit-culture, by Mr. SPRINGER, Prof. KIRTLAND, Dr. BARKER, &c. An able State Committee is appointed, with the President, A. H. ERNST, Esq., at its head; and altogether, we look upon this association as working steadily onward in the right path.

....

COVERING THE SOIL ABOUT FRUIT TREES.—*Dear Sir:* I have noticed, with interest, the remarks of Mr. CLEVELAND, and others in this journal, on the subject of covering the surface of the soil with substances, to keep it of an uniform state of moisture, &c.

I will add my mite in favor of this process. I adopted the same plan last spring, covering the ground with *straw* two inches deep, laying it down smoothly and closely beneath the trees, for a space as large in diameter as the spread of the branches.

The result has so far exceeded my expectations, that I am tempted to believe that there must be some stimulating as well as protecting influence in the straw.

I have gathered from a few quince and plum trees, (the only ones to which the application was made,) fruit of nearly double the size of that from other trees in the same soil; and the plums held their fruit better than I ever had any to do before on my premises. Yours, *A Constant Reader. Philadelphia, January* 16, 1849.

.....

PRUNING PEACH TREES.—In regard to peach trees, I have for the three years past, effectually tried your shortening-in system, and with the happiest results, fully confirming all that you say in its favor. *A Connecticut Subscriber. Hartford, Nov.* 15, 1848.

.....

CHEAP GREEN-HOUSES.—I have been especially interested in the recent articles in regard to Green-Houses. To one who has in any degree the love of beautiful plants, and to whom a well arranged flower garden in summer is a sort of elysium, the best method of perpetuating his blooming favorites, and carrying, as it were, midsummer into the depths of dreary winter, cannot be devoid of interest. But to persons of moderate incomes, the expense attending the heating of a green-house is a serious obstacle; and my present design is to suggest a plan by which fire heat may be wholly dispensed with. My plan is this:

In a niche of my dwelling, formed by the main building, and a wing about 9 feet by 16, and a southeastern exposure, I propose to build a model green-house.

The two open sides of this niche, I would enclose with upright glazed sashes, in the usual manner, upon a brick or stone foundation, well laid in mortar, and sunk to a proper depth below the surface, and covered with a single glazed roof.

In the centre of this enclosed space, I would sink a pit to the depth of 7 feet—3 feet in width,

by 10 in length, and well bricked up, leaving a space of 3 ft. in width all around; this space to be filled in with dry tan or some other similar material, to the depth of from four to six inches, and covered with a good matched floor.

Above this pit, I would have my stage for the flowers suspended, by weights, in such a manner that it may be let down with its contents, readily into the pit below, over which I would have a double sash, shut down closely. Into this pit, I would have the stages lowered every night, and in very cold, cloudy weather, to protect the plants from the frost. But in fair days, the heat of the sun, together with the heat communicated from the sitting room, would enable them to emerge with safety from their prison, in perfect health and vigor.

This, it seems to me, would give all I could desire in a small green-house, and at a very trifling expense. Should this plan be found practicable, it can be applied to green-houses of any possible shape or dimensions. The danger of withering some plants by the dry and heated atmosphere in the vicinity of the furnace, while those at a distance would be suffering from the frost, would be entirely obviated; and it is believed the plants would thrive far better than in green-houses heated in the ordinary way.

I design in this article, merely to throw out suggestions, leaving the practical man to fill up the minutia himself. I would, however say, that I would have the weight boxes suspended by ropes, each running over pullies, and attached near the corners at each end of the stage, to ensure steadiness of motion. There should be an excavation at each end of the pit, sufficiently deep to enable them to play wholly beneath the floor. I make these suggestions for your practical consideration, and shall look for your opinion in reference to the feasibility of the plan, in the columns of your journal. Yours truly, *George W. Calkins, M. D. Germantown, Columbia Co., N. Y.*

[We fear our correspondent would find his stage, when filled with plants, rather a heavy thing to manage with weights in the mode he proposes. Would not double shutters answer the purpose more satisfactorily? Only the hardier green house plants could be kept in this way, and such are easily kept in pits or green-houses, with mats of outside covering to the glass, without fire heat. Ed.]

.....

Disposition of Pear Cuttings to root—Last spring I received from a friend about 2 doz. pear stocks in bud. As soon as the buds began to swell, I cut off the tops, with the label upon them and stuck them in the ground, beside the stock from which they were taken, in order to mark the varieties until I had made a record of the same—however, they were permitted to remain during the whole season as put in, and this last fall I took them up, each one having rooted finely, and grown from three to six inches. They are equally as good stocks now, as some I purchased at $20 per 1,000. Why would not this be as good a plan as any other to propagate pear stocks? Soil a loamy mould. *A. F. Lancaster, Ohio, Feb. 1, 1849.*

.....

Orchidaceous Plants.—*Sir:* Having shown, in my letter in the January number of the Horticulturist, that orchidaceous plants are found everywhere, except in the very coldest regions, or where everlasting dryness reigns, but still wishing to revive our feeble attempt at recommending to your readers this most singular and exquisite tribe of plants, we will confine our observations, for the present, to some remarks on the general treatment of American species, to which we will add a few of those really worthy of cultivation, and with reciting a few of those remarkable peculiarities so unusually met with in other plants.

Ere we proceed with our remarks, it is right that we should explain the term *Epiphyte* to those who may not understand it, as it is frequently met with in every work on botany, or orchidaceous plants. The word Epiphyte, properly speaking, is applied to all those plants, whether *Orchids*, *Mosses*, *Lichens*, or any other plants that grow upon *trees*, *stones*, or other *plants*, without deriving any nourishment from the material on which they grow. Hence, the term was originally derived from two Greek words,—*epi*, upon, and *futon*, a plant; (from the supposition that they always grew upon trees, or other plants.) As this derivation did not give general satisfaction, Mr. Lyons substituted for *futon*, the word *fuo*, which means, to grow or be produced; for which he was upbraided by an author of no less celebrity in horticulture than the late Mr. Loudon, who expressed his surprise at Mr. Lyons' ignorance in not deriving it from *epi* and *futon*. But the new derivation has, since then, proved to be the most general and correct; as several specimens of the genus Brassavola have since been discovered in Brazil, growing upon stones and bare rocks. Mr. Gibson also found several species in India, growing upon rocks and stones, among which were *Dendrobium Gibsoni* and *Cambridgensis*. Consequently, the word *fuo*, is now justly acknowledged to be correct by all scientific writers.

Let us now see what progress has been made in their cultivation since their introduction into England, some fifty years ago. In the year 1800, their number in Kew Gardens is supposed not to have exceeded two dozen; nor does it appear that even botanical collections were better furnished with them. It is not to be supposed that botanists were not aware of their existence; for we find they were occasionally introduced into England. But the proper mode of cultivating them was then unknown; hence, the impossibility of increasing them, or prolonging their existence to any lengthened period after their introduction. Before Mr. Cattley turned his attention to them it was customary to submit them to the same

treatment as was conferred on other tropical plants, once having ascertained they came from a tropical country, without making any inquiry as to their habitats, or the nature of the atmosphere in which they luxuriated. The changes of temperature and season they experienced never occurred to the grower as a matter worthy of inquiry; consequently, plants whose natural habitats, or places of growth, were branches of trees, when submitted to such unnatural treatment, soon ceased to exist.

Mr. CATTLEY having succeeded, to some extent, others viewed his collection with an admiring eye, and also embarked in the same culture, still improving on the method adopted by the first cultivators; so that, after a short period, a few of them were to be found in every good plant collection, till they at length became what Mr. DOWNING, in his note to our former letter, calls the *ultimatum* of British culture. Many difficulties have been thus removed; and it is now ascertained, from experience, that they will not thrive without a soil, drained so as to prevent any stagnant moisture remaining about their roots, and in some cases a high temperature, and an atmosphere nearly approaching the point of saturation.

Having given some account of the difficulties early cultivators had to encounter, we wish now to caution those of your readers, that may possess some of them, against high *night* temperature; as it is the greatest evil attending their cultivation.

That all plants require a season of rest, is a subject that no judicious plantsman will question. We are informed, that in the mountainous islands of the Indies, the air upon the mountains becomes, soon after sunset, chilled, and condensed; and owing to its superior gravity, it descends and displaces the warm air of the valleys. Therefore, nature and reason point out to us the propriety of a lower temperature for all plants at night than in the day time. The best time for this resting season is from the beginning of November to the end of February. All the Brazilian orchids seem to be an exception to this rule; as they are found most active in their growth from the month of November to April, and must then have their season of rest.

The temperature of the orchidaceous-house, during this time, should be kept from 60 to 65 degrees, during the day, and from 50 to 55 degrees at night. It is necessary that the temperature of all plant houses be kept much lower during the night than in day time. The reason is evident. If heat and moisture be applied to a plant in a growing state, it must of necessity grow in proportion to the amount of those agents; as it is in day light only that plants can digest their food, and harden their texture, the amount of digestion and hardening will be in proportion to the intensity of the light they receive. If they are compelled to grow in the dark, they are filled with undigested sap, and their wood becomes watery and soft.

The following extract, from the Theory of Horticulture, fully coincides with these remarks: "The effect of cold is, to diminish excitability of heat to stimulate it; but if the latter stimulus be constantly equal, it may be conceived, that the excitability would soon become impaired or expended. Nature has, however, provided against this result; not only by the fluctuations of temperature, that occur at different periods of the day, but more particularly by the periodical fall of temperature at night, and its rise during the day. An arrangement intimately connected with all the vital actions of vegetation.

In the day, when light is strongest, and its evaporating and decomposing powers are most energetic, temperature rises and stimulates the vitality of plants, so as to meet the demand thus made upon them. As light diminishes, and with it, the necessity for excessive stimulus, temperature falls, and reaches its minimum at night,—the time when there is the least demand upon the vital forces of vegetation. So that plants, like animals, have their diurnal seasons of action and repose. During the day, the system of a plant is exhausted of fluid, by the aqueous exhalations that take place under the influence of sunlight. At night, when little or no perspiration occurs, the waste of the day is made good by the attraction of the roots; and by morning, the system is again filled with liquid matter, ready to meet the demand to be made upon it on the ensuing day. No plants will remain in a healthy state unless these conditions be observed."

Orchidaceous plants, while dormant, require no more water than what will keep their pseudo bulbs and foliage from shriveling; particularly those in pots, as the preservation of their roots in winter is of the greatest importance. And those in pots are found more difficult to keep than when other modes of cultivation are adopted; owing, no doubt, to their being in immediate contact with moisture. As the size of a plant is in some measure proportional to the surface of the organs that are destined to convey food to it, and as a plant gains an additional mouth with every fibre of root; and though those mouths, or spongioles, become dormant or drop off in winter, the preservation of the roots is of the utmost importance. For when they are left to perish, the plant becomes sickly; the amateur is disappointed; he watches in vain to see them expand their bloom,—the only return for his outlay.

Wood-lice are also very injurious to Epiphytal orchidacea, as they eat the *spongelets*, or young extremeties of the roots, by which absorption takes place; consequently, the plants often receive a check by the destruction of those organs when they are in a growing state. Every means should be resorted to in order to destroy them. The best way we know of, is to look over the plants at night with lamplight, and kill as many of them as can be found. A small spring tweezers is very useful for the purpose. After dark, they come

forth from their lurking places, and are readily observed on the *roots*, sides of the pots, &c.

It was to prevent their depredations that Mr. Lyons made his ingenious invention, called the *Onyscamyntic Epiphyte stand*, for which the growers of those plants generally owe him a debt of gratitude. (The name seems a difficult one, but is well chosen from the Greek words, oniscus, a wood-louse, and amynticus, defensive, or used in defence against.) This stand consists of a massive saucer, or feeder with a raised centre, in which is fixed a block of wood of whatever size required; the saucer being always kept full of water, forms a sort of fosse impassable to vermin. They are made of various sizes, to suit convenience.

This is the most natural mode of growing them yet known; as it seems to possess every combined requisite for growing them according to their nature, and in the highest degree of perfection.

They take up no more room than a pot; and if judiciously managed, each block, according to its size, will hold from one to twelve or more plants. They are tied on with fine copper wire and small white tacks, such as are used to nail down carpets. Copper nails, of a similar size, are preferable; they being less subject to rust. The roots are then covered over with thin flakes of hypnum, or some similar moss, neatly tied on, to preserve a little moisture till the plants begin to grow; they will soon protrude their roots, and take firm hold of the rough bark of the wood. This is far preferable to what was formerly used, and to which many of the old school seem still to adhere, viz., lumps of *turf*, *stones*, *potsherds*, pieces of *wood*, *inverted flower pots*, *sand*, *&c.*, were all tumbled together, heaped high in a pot, for no other purpose than endeavoring to imitate nature, in procuring material to which the roots could adhere, and secure a perfect drainage, to guard against too constant a submersion in water, or a superabundance of moisture about their roots.

Towards the end of February, several of the plants will be making their new growth. The temperature may be gradually increased to 70 degrees during the day, and from 60 to 65 at night. Water must also be carefully given to such as require it. Some make it a general rule to shift all their orchids annually, sometime from February to May. This is a practice indeed unnecessary, except in some particular cases; for instance, where a large plant be crammed in a small pot, or such as will otherwise actually require it, keeping always in mind to shift when they show indications of growth; that is, when the plants begin to protrude their roots, as there is then the least danger of a check. This is a matter that is seldom or never attended to, and is of such importance that I wish I could sufficiently impress a strict observance of it. As the season advances, the plants will be getting more active in their growth, and consequently require a gradual increase of temperature. 76 degrees fire-heat, by the first of May, will be sufficient, and from 65 to 63 at night.

As the sun shines strong by the middle of April, the temperature of the house will often rise to 90 degrees or more, the house can then be opened to any extent required. There is no danger to be apprehended from an increase of day temperature if sufficient air is given, and the blinds pulled over the roof from 10 to about 3 o'clock, to prevent the scorching rays of the sun shining upon the plants. Their supply of water must be also increased, and a moist atmosphere maintained; they live upon it. They may now be occasionally syringed. The best time for syringing previous to the month of June, is about 3 o'clock in the morning. To afford an opportunity of drying the plants during the day, it would be unsafe to frequent the syringe too often at this season; for indiscriminate syringing, before the pseudo bulbs are formed, is often destructive to a general collection. When the water lodges in the young shoots, they soon damp off. The loss of the leading shoot so enfeebles small plants that they are seldom able to make a second effort; consequently their death is inevitable. Syringing with strong force, as is often practiced on other plants, where the removal of green fly and other insects is the object, would be destructive to orchidacea. Our own mode is to let the water come on the plants gently from a fine rose, so as to represent a heavy dew; the house being then shut close, it gives a fine humid atmosphere, and will never over-water any of the plants.

The singular habit of growth of Epiphytal orchidacea, is no less remarkable than the various forms they assume, of which the sportive monstrosities observed in the genus *Catasetum* is the most anomalous instance on record. Sir Robert Schomburgk found in Demerara *Monachanthus Viridis*, *Myanthus Barbatus*, and a *Catasetum*,—three supposed genera upon the same spike. A similar specimen is figured in the Botanical Register, as having flowered at the Duke of Devonshire's, at Chatsworth. A plant of the same species, under our own care, in 1846, produced its normal blossom (*Myanthus Barbatus.*) In 1847 it turned out to be *Monachanthus Viridis*; and in 1848, we had both Myanthus and Monachanthus on the same stem. A similar peculiarity has lately appeared in the genus *Cycnoches*, where two distinct species, *Cycnoches Ventricosum* and *Egertonianum* have appeared together.

As our space is limited, we must defer any further remarks for the present. I am, sir, respectfully yours, *M. C. Newburgh, January*, 1849.

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Special Manures—Letter from Prof. Kirtland to the President of the Ohio Fruit-Growers' Convention.—It is with regret that I find myself compelled to forego the pleasure of participating in the doings of your meeting. There are several subjects on which I am anxious to exchange ideas with my horticultural friends. To one of them I will allude by letter.

The 2d vol. of the Horticulturist contains an article on "special manuring" of fruit trees, written by Mr. Downing, which embraces the analyses of the wood of various species, by Prof. Emmons. Several periodicals and scientific publications, both in Europe and this country, have of late contained much that is important in relation to this subject.

Community at large have always known that each species of animals requires peculiar kinds of food, to ensure health, growth, and full development of its powers, and that the kinds adapted to one species, may not answer for another. The cow will starve on that which will fatten the dog.

That each species of the vegetable kingdom is equally select in its requirements of food, has not been generally understood. An indefinite idea has prevailed, that all vegetables will flourish in a soil that in common language, *is rich*.

Both science and experience have, however, shown us that vegetables, as well as animals, must be fed with their appropriate elements of nutrition, in order to flourish. For the last six years I have devoted some time and thought to discover the best and most economical method of supplying fruit trees and wheat with their appropriate food.

The writings to which I have alluded, have relieved the subject of much obscurity, and enabled me to progress with my researches and experiments with more precision.

My farm originally contained very limited quantities of several important ingorganic principles of wheat, and those had been so entirely exhausted by bad management, that wheat would literally produce neither straw nor berry.

The pear tree would send forth not more than from two to six inches growth in a season; fruit buds would form in excess, the fruit would be blighted, knotty and deficient in flavor, and in the course of four years the tree would exhibit the evidences of old age and disease. In the same soil, the apple tree would succeed somewhat better, while the peach and cherry would flourish both in regard to the production of wood and fruit, to the extent of my wishes.

Under these circumstances, I set myself to work to discover the cause of such results, and soon became convinced that it was a deficiency of some kind of nutrition. The analyses of Prof. E. indicated the kind.

Plaster of Paris, clover, leached ashes, and a small addition of barn-yard manure, brought some of my barren fields, at the end of two years, into a condition in which they produced large crops of wheat straw, but yielded only eleven bushels of wheat to the acre.

By supplying one of these lots with a second dressing of plaster, turning in a large crop of clover, and adding subsequently a supply of barn-yard and slaughter-house manure, and phosphate of lime, I obtained nineteen bushels of superior wheat to the acre, besides that which was wasted by long continued rains. The straw was not heavier than in the former year.

A dressing of phosphate of lime, ashes, and barn-yard manure, with a limited supply of salt, has effected an equally favorable change with the growth and fruits of my pear trees.

The limits of this communication will not allow of my detailing all my numerous experiments. I will, however, say, in general terms, that they have been in the highest degree satisfactory, and have amply repaid all expense and trouble.

A fruit tree or a grain field can be fed with as much success and precision as a cow or horse, and an half starved fruit tree is no more sightly nor profitable than an impoverished animal.

The late Mr. Marvin, of Beaver county, Pa., once observed to me, that he "had no sick sheep in his numerous flocks, owing to the circumstance that he visited them daily, and saw that they were well fed."

The horticulturist who pursues a similar course with his fruit trees, will suffer very little from their unhealthiness or unproductiveness.

Since I commenced the plan of high feeding, and have banished from my grounds every tree propagated on a sucker, not a solitary pear tree has been affected with *fire blight*. These circumstances may have been coincident, but at the same time accidental. The subject is, however, worthy of further attention.

The analyses of Prof. Emmons have been the basis upon which I have founded my experiments during the last year.

At the first view of the subject the culturist may be discouraged with the apprehension that the means of supplying his trees with inorganic elements cannot be commanded. In this section of the state, the greatest difficulty will occur in procuring potash and phosphate of lime; yet the materials usually wasted about the dwelling of a farmer, would furnish the required number of fruit trees with these elements. Leached ashes from soap-making and pot-asheries will supply the former in abundance, and the latter is derived principally from animal bones. Every fragment of bone, and the remains of every animal, large and small, should be carefully preserved, and applied to the roots of fruit trees.

It may, however, be obtained in limited quantities from urine, excrement of fowls, peat and decaying vegetable fibre, and in some soils and waters it naturally occurs.

According to Raspail, it abounds in such quantities in the leaf of the poke-berry, (*Phytolacca*,) that under certain management the foot stalks will be coated with acicular crystals of this salt.

It may, however, abound in a soil in an insoluble state, in which it cannot be converted to nutrition by the growing tree. The addition of ammonia or common salt, will at once enable it to pass into a state of solution in water, when it may be taken up by the spongioles of the roots.

Common salt affords of itself little or nothing

that is nutritious to a fruit tree; but it acts indirectly upon the phosphates. In no other sense is it either a stimulant or nutrient to vegetation.

The more abundantly a tree is furnished with enriching compounds, containing phosphate of lime, the greater the quantity of salt that may be safely applied as a dressing. *J. P. Kirtland. Cleveland, Sept. 20, 1848—Ohio Fruit-Grower's Report.*

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Osage Orange Hedges—Sowing the Seed.—*Dear Sir:*—I believe you are conferring a real favor on many readers of your Journal by commending to their favorable attention the *Osage Orange* as a hedge plant. I have given much attention to this subject during the last three or four years, and have repeatedly examined the oldest hedges of it in the country (at Mt. Airy, near Philadelphia, and in the vicinity of Cincinnati;) I am also personally familiar with the hedge plants of Europe; and I do not hesitate to say, that as far as present experience indicates, the Osage Orange is the most beautiful and perfect hedge plant as yet known, for all countries where the winters are not too severe.

In regard to this question of *climate*, I am firmly of the opinion that it will be found to succeed, as a hedge plant, on soils not too wet, as far north as the New England states. The young plants will need earthing up, or other slight protection the 1st & 2d winters, and the tops will doubtless be killed to a considerable extent for 2 or 3 years; but not so as to injure the hedge, inasmuch as close pruning is indispensably necessary each spring, to thicken the hedge. In this vicinity, (Columbus, O.) our winters are quite variable, and *severe* at times—the thermometer not unfrequently as low as 10 to 12 deg. below zero; and we have trees of the Osage Orange 10 to 12 years old, growing thriftty, and not the smallest twig injured by the winters—although when young, the plants were every year more or less injured. I have known the plants to stand the winter in western New-York, with as little injury as here.

Sowing the Seed.—It is on this point that I desire particularly to remark. In the February No. of the Horticulturist, p. 390, speaking of the osage orange, it is stated that "good seeds are almost as easily raised as peas." This is true of the seeds when taken from the ripe fruit in autumn, and put immediately into the ground, or in a box of earth or sand, so as not to allow them to become thoroughly *dry*. But the seed as brought into this country from Texas and Arkansas, although perfectly *good*, is almost sure to fail unless prepared by long soaking, or freezing in moist earth before sowing; (or sown in the fall.) Having sowed the seed each spring for three years past, and sold large quantities to others, I have taken much pains to learn the best methods of managing the seed to ensure its vegetation, and now find but little difficulty if the seed is plump, has not been *heated*, and is not more than 2 or 3 years old.

My plan is, to mix the seed with sandy earth in a box, (not water tight,) as soon as obtained, in fall or winter; wet it thoroughly, and place it where it will be exposed to freezing and thawing, without becoming dry, during winter; then sow in good ground (like peas,) in spring, when vegetation has become brisk. If the seed is not obtained in time for freezing, soak it in water in a warm room, (or stand in a hot bed,) for 5 or 6 days; then turn off the water, and mix the seed with 2 or 3 times its bulk of fine earth, and let it stand in a warm place, keeping it moist and stirring occasionally, from three to six days longer—or till the seeds begin to show signs of sprouting; then sow, and if the weather is warm, as it should be, the seeds will come up as certainly and quickly as peas.

Planting the Hedge.—This should be done when the plants are *one year old*—(they will then be from 1 to 2 feet in height according to the soil, climate and culture.) If allowed to stand two years before transplanting in this climate at least, [and when the soil is rich] the plants become too large, and the roots are unavoidably much mutilated in digging, owing to their great length, and downward tendency. In taking up some plants the past fall of only one summer's growth, and the tops not over 18 inches high, I found perpendicular roots *three feet in length*. In planting, the roots are shortened 10 to 12 inches, and the tops cut off nearly even with the ground. Respectfully, &c., *M. B. Bateham. Columbus, O., Feb.*

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Fruits and Fruit Trees.—I have been a constant reader of the Horticulturist from its beginning, and have been much gratified and instructed by its perusal, especially of those parts of it which have treated of the culture of fruit and fruit trees.

For some ten years past, I have expended more or less each year in attempts to cultivate strawberries, but as yet to no profit, having been blessed in all my selections with an abundance of staminate or barren plants. However, with my dear-bought experience, and information gained from reading most of the articles published on the subject, I trust I may yet meet with, at least, a limited degree of success. My experience fully coincides with the views of Mr. Longworth, on the vexed question of strawberry culture.

The suggestions and instructions of yourself and others, on the subject of special manures for fruit trees, have induced me to *lime* and *ash* my Pear and Apple trees, and *ash* my Cherry trees, of which latter I have about 160, most of them just beginning to fruit. The fact that analysis shows the bark and wood of the pear and apple to be composed mostly of potash and lime, would of course seem to indicate that the use of these "special manures" would be beneficial, and in fact, absolutely necessary—but when I read as for instance, in the last August No. of Hovey's Magazine, (page 382,) "that the subject of special

manures is deluding too many inexperienced cultivators, and that practical men know too much to be taken in by such *one ideas*," I am set all aback. "Who shall decide when Doctors disagree?" Very truly yours, *C. T. Cherry Grove, Buffalo, Jan.* 16, 1849.

Touching the special manures, we venture to correct our correspondent's quotation, by making it read "Who shall decide when" *Hovey* "disagrees?"—as we do not know of a single experienced cultivator besides, who doubts the value of special manure at the present time. Here friend HOVEY considers it "quackery," but he is so fond of disagreeing that we cannot but think it one of his pleasant jokes. His position is what the French call the "*extreme left*," and if Sir ISAAC NEWTON were alive now, and had just propounded the theory of gravitation, H. would, very likely, in his lively and amusing way, pronounce it a "delusion." ED.

THE FROST GAGE PLUM.—Sir: As some considerable animosity has of late shown itself from a certain quarter against this variety, I should be glad to say a few words to the readers of the Horticulturist on the subject. It was selected as one, among the small list recommended by the American Congress of Fruit Growers, as worthy of general cultivation, and in your work on Fruits you say of it, "Scarcely yielding to any other late variety, in the excellence of its flavor." While I think, that when preserved in a proper manner *it surpasses all others*, either late or early, in the *superiority* of its flavor. And of this I intend, if spared again, to meet with the Pomological convention, to give all the members an opportunity of judging for themselves. But certain persons, either because they cannot grow it well in their light sandy soil, or because, as they say, "*It grows in large quantities about Newburgh from suckers*," would be willing to annihilate it altogether, or to place it in a *Rejected list*. A strong evidence of its great value is given in the fact that it is grown in large quantities in the very neighborhood where it is best known and most highly valued, and where large numbers of bearing trees must be possessed in order to obtain suckers in large quantities. Indeed, its merits are so well known, in one of the best plum districts, that I have about eight thousand of different sizes, in my nursery, and not half that quantity of any one other variety. Another objection is made from the statement that *it knots so badly*. So indeed, will many others of the best kinds, if totally neglected; and I could show you on my own grounds, and in the immediate vicinity, many large trees of the Frost Gage, as smooth, and apparently as healthy and free from knots as any others; and where *over* $300 *were obtained the past fall from the fruit from less than one-fourth of an acre*, while some others much younger or smaller at least, are badly knotted and almost worthless. The cause, however, is plain enough; it is simply neglect.

Now in order to cultivate this tree understandingly, it is necessary for us to know, that it does best in a rich and quite moist *clayey* soil; that it does not bear heavy crops while young, but is a long-lived tree. Standard trees growing along side of my late residence, and supposed to be from thirty to forty years of age, bear good crops and bid fair to live for many years.

A neighbor of mine planted a plum orchard of about 1400 trees of this variety alone, in the fall of 1847. And certainly we know their real worth in this place, where some thousands of dollars are received annually by the inhabitants of a small district, for the fruit of this one variety only; and where one man sold about seventy barrels the past autumn, which commanded over $5 per barrel. And let me ask whether, with all these facts, establishing its value beyond controversy, shall we attempt the *princely* operation of *rejecting* it. Very respectfully yours, *Chas. Hamilton. Canterbury, Orange Co., N. Y., Jan.* 1849.

[Mr. Hamilton does not overrate the Frost Gage, and those who have failed with it, have failed chiefly from having grown it on too light a soil.—ED.]

ERRATA.—By some error of our proof reader, the writer of the excellent review of Mr. ALLEN's work on the grape, in our last number, is made to speak of himself sometimes in the singular, at others in the plural number. The error is a very obvious one, and we only beg leave to correct it by saying that wherever "we" occurs, it should read "I."

ANSWERS TO CORRESPONDENTS.

NECTARINES.—*A. H.* (New-York.) The Downton nectarine has fruited abundantly in our garden, and we estimate it more highly for ordinary culture than any other variety. The fruit does not drop off just before maturing, like most other sorts. The Elruge is the most popular sort grown in this country.

MORTAR FLOORS.—*James Alves*, (Henderson, Ky.) The following mode gives a good floor for basement rooms ar cellars. The bottom being well drained, cover it six or eight inches deep with small stones, laid snugly and closely together. Cover them four inches deep with a coarse mortar made of gravel and newly slacked lime; this should be well beaten, and made perfectly level. As soon as it becomes quite firm, (which will take several days,) cover it an inch deep with a mortar composed of lime, sand, and fresh brick dust from a brick kiln; or, if that is not easily obtained, use wood ashes. Mix the mortar and add the brick dust or ashes (as most convenient, just before tempering each hod of mortar for laying it down. It should be made as smooth as possible with the back of a spade, followed by a trowel, and will soon become perfectly hard. About one-third in bulk of brick-dust or ashes should be used in proportion to the whole mass of mortar. A little

yellow ochre dissolved in the water used in tempering the mortar, will give it a better color.

Orange Trees.—*Delaware*. Your trees are suffering from bad soil. Turn them out, and repot them in a mixture of burnt sods and fine charcoal, and they will soon recover.

Bitter Rot.—*T. B.*, (Washington.) A liberal dressing of wood ashes will be likely to prevent this disease in your apples. See Mr. Elliot's communication in this number. We also recommend a trial of gypsum.

Vine Borders.—*A Connecticut Subscriber*. If your subsoil is a yellow sand, always dry, you will need nothing in the bottom of your border for drainage. By all means mix the bone manure, leached ashes, charcoal screenings, chopped loamy turf, &c., through the whole mass of the border, and not put them in layers. The only substances needing to be treated in this way, are very warm manures, such as carcasses, &c., placed at the bottom so that the roots may not reach them till they are decomposed, or bones and lime rubbish, which thus serve the double purpose of food and drainage. But recent observations incline us to doubt the good effects of *whole* bones, and we would always use them either ground or dissolved. Neither ground bones nor leached ashes will do any harm to the roots of your vines when intermixed with the soil. All the above substances are excellent materials for a vine border, and a sprinkling of gypsum, may be added with advantage. Chopped sods are much better than loam if you have not much manure at hand. The horse manure may be used liberally with great advantage, and should be mixed through the whole mass.

Camellias.—*W. E. J.*, (Southbridge, Mass.) The Camellia may be kept in a cellar free from frost, provided there is plenty of light, and the plants are watered but seldom—so as to keep them dormant. The old *Double White*, *Double variegated*, and *Press' Eclipse*, will best answer your purpose. See Mr. Feast's remarks, present number.

Osage Orange.—*John Foster*, (Dayton, O.) The young plants often suffer the first one or two winters from the seed—the young wood being sappy. But the plants will be perfectly hardy with you when the hedge is grown. Of course, all plants stand the winter better growing on high than on low ground. It is a good plan to turn a furrow in the autumn against the young hedge, and remove it in the spring. It serves as a protection.

Strawberries.—*A Young Horticulturist*, (Middleboro', Mass.) A swamp well drained, and coated a foot deep as you propose, would be an excellent soil for strawberries and raspberries;—much better than a gravelly upland—for unless the latter soil is *deep*, the crops and fruit will be small. If a gravelly soil, is well *trenched* and afterwards enriched, it will answer perfectly.

Compost.—*Middleboro'*. Swamp muck, reduced with leached ashes, makes the better compost for sandy soils; and muck reduced with lime for heavy soil.

Improving Forest Groups.—*Yeoman*, (Hartford, Ct.) You may greatly improve the appearance of the meagre looking forest trees in your approach, by loosening the soil around them with a pick, and giving them a heavy top-dressing of guano, ashes, and gypsum, mixed together. Head back at once the tops of any of the young saplings that are unsightly—this will make them put out new and more bushy heads. Plant the following rapid growing trees at the points marked C. D. E. F. on your sketch—viz: Cork-bark Elm, Silver Maple and European Sycamore;—the Paulownia would not harmonize with the present groups. Prepare the holes for these trees thoroughly, by digging them four feet across and 18 inches deep, and manuring them well.

Girdled Trees.—*Y*. If your trees are not quite girdled, and you cover the wound with the shellac solution described in our last vol., p. 533, they will recover. If wholly girdled, your only chance of saving them is to *graft* a ring of bark from another branch of the same kind of tree, on the girdled spot. This may be done when the sap flows freely, and we have known even a narrow strip of bark, say an inch wide, inserted in this way, which saved the whole tree. Of course, the whole wound must be carefully covered from the air by grafting wax or clay.

Hot-bed Lights.—*New Bedford Sub*. The best substitute for glass is strong cotton, coated as described by a correspondent in last vol., p. 354. It is cheap, but not very durable, unless carefully used.

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*** Correspondents who are *subscribers*, will hereafter find replies to any questions within the scope of this journal, in this department, (unless otherwise requested;) and all queries, put in a *brief shape*, and sent to us *free of postage*, shall receive attention. They should be sent, if possible, in the early part of the month. Ed.

MASSACHUSETTS HORTICULTURAL SOCIETY.

BUSINESS MEETINGS.

Jan. 20, 1849.—President SAMUEL WALKER, in the chair. D. A Simmons, Alvah Kittridge, of Roxbury. and Edward E. Rice, of Dorchester, were proposed for subscription membership by the President.

The Committee on Finance made their Annual Report, which was accepted.

The President recommended that the Committee of Arrangements be requested to consider the expediency of the Society's holding two Shows during the year, viz: an Exhition of Roses and other Flowers, in June, and the customary Annual Exhibition in September; and that they report to the Society at the next meeting.

The President also recommended that a Committee of—persons be appointed to ascertain and report a Catalogue of the varieties of fruits which have been exhibited at the rooms of this Society, since its organization up to the present time, together with the name of the pereons who exhibited the same,—and it was voted to refer the subject to the Committee on Fruits.

Feb. 3—President SAMUEL WALKER in the chair. Mr. C. M. Hovey, chosen Secretary pro tem.

Calvin Young, of Jamaica Plains, was proposed for membership by the President.

Mr. M. P. Wilder, as Chairman of the Committee, appointed to settle with Mt. Auburn Cemetry, reported that they had received, per hand of Geo. Wm. Bond, Esq., Treasurer of said association, the sum of twenty-five hundred and eighty-two dollars and forty-three cents, being the Society's proportion of the nett earnings for the year 1848.

Mr. Joseph Breck, Chairman of the Committee of Arrangements, reported that the Committee deem it expedient to hold the Annual Exhibition of the Society, on the 18th, 19th, 20th and 21st days of September next; and recommend that hereafter there be held a Show of Flowers, &c. in June, the days to be designated by the Committee on Flowers.

On motion of Mr. D. Haggerston, it was voted that the Committee on the Library, be authorized to purchase one or more copies of J. F. Allen's Treatise on the Grape, for the use of the Society.

L. B. Comens and Laban T. Beecher, of Roxbury, were elected subscription members of the Society.

Feb. 10.—President SAMUEL WALKER in the chair. Mr. C. M. Hovey, appointed Secretary pro tem.

Azell C. Bowditch, of Roxbury, was proposed for Life Membership, by Azell Bowditch.

On motion of Mr. C. M. Hovey, it was voted that the sum of $50 be awarded at the Exhibition to be held in June next, and that the Committee on Flowers be requested to report a list of such premiums.

Feb. 17.—President SAMUEL WALKER in the chair. Wm. Underwood, of Boston, was proposed for membership by the President.

The Committee of Publication reported that they recommend the publication, by the Society, of another number of its "Transactions," to complete the first volume.

A letter was received from the Antiquarian Society, soliciting copies of its Transactions; and it was voted that the Corresponding Secretary be requested to furnish the same.

Edward E. Rice, of Dorchester, and David A. Simmons, of Roxbury, were admitted as subscription members.

E. C. R. WALKER, *Rec. Sec'y.*

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this Society for February, was held on Tuesday evening, the 20th, in the Chinese Saloon. The President in the chair. A beautiful display of plants, designs, &c., was presented on the occasion, much to the gratification of the visitors in attendance. A fine collection of plants were shown by Robert Buist, not in competition; among which were seen the following plants of recent introduction: *Torenia asiatica*, an interesting plant of some note, and for the first time exhibited; *Porphry coma lanceolata*, of peculiar form; a Seedling Cineraria var Scottii, of much beauty, with Heaths, Cinerarias, &c. The President's gardener exhibited a fine specimen of Camellia var Wilderii, Epiphytes, Cypripedium, and other green and hot house plants; also cut flowers of choice Camellias. James Dundas' gardener, large and handsome Azaleas. Peter Raabe, a stand in which was planted choice Hyacinths, and a pot of double Chinese Primroses. Designs of handsome form and of the finest flowers, were shown by James Bisset, gardener to James Dundas; Ben Daniels, gardener to Caleb Cope, and Peter Raabe.

Fruit.—From the President's green-house, a dish of Hovey's and Keene's Strawberries, very tempting. St. Germain and Beurre Easter Pears, by Thos. Hancock. Four varieties of Apples, by John Perkins, and specimens of the "American Farmer" apple, by Col. Carp.

Among the vegetables were noticed Cucumbers, new Potatoes, Mushrooms, Seakale, Kidney Beans, Lettuce, &c., from the forcing-house of the President, and an extensive variety from Anthony Felten.

Premiums were awarded as follows:—By the Committee on Plants and Flowers—Camellias; for the best regularly shaped six named varieties, in pots, to David Scott, gardener to F. Lennig. Cut Camellias, for the best regularly shaped six named varieties—for the 2d best ditto—for the best of other forms—for the best six named Premula sinensis—for the best three named specimens hot-house plants—for the best collection of plants in pots—for the second best Designs, and second basket of cut Flowers, all to Ben Daniels, gardener to Caleb Cope. For the best green-house plants, three named specimens, and the best design formed of cut Flowers, to James Bisset, gardener to James Dundas. For the second best green-house plants, three named, to Daniel Scott, gardener to Frederick Lennig. For the best basket of cut Flowers, to Maurice Finn, gardener to John Lambert

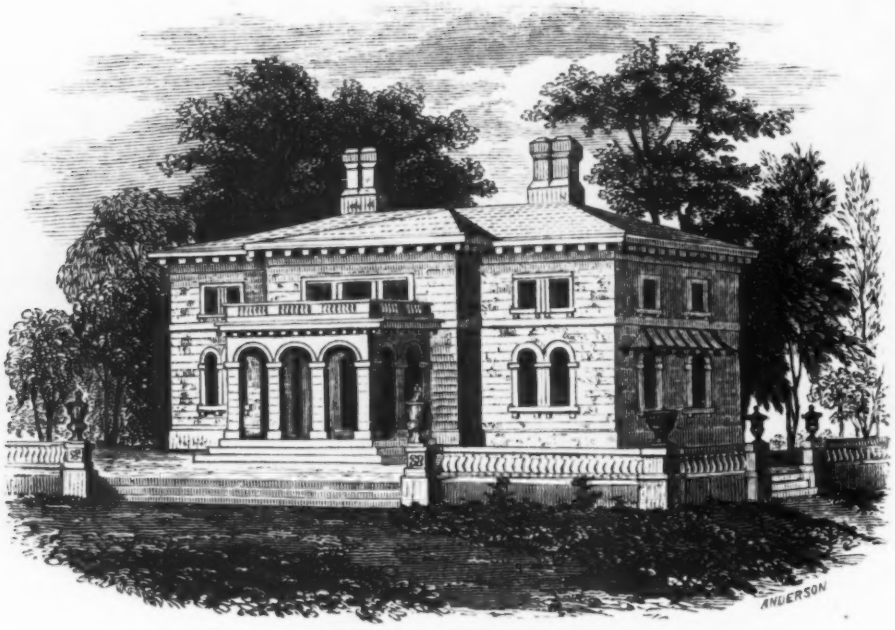
The Committee noticed with pleasure, three new plants, from R. Buist—*Torenia asiatica*, *Porphrycoma lanceolata*, and *Cineraria Scottii*, and awarded a special premium of three dollars for the same. The Committee awarded a special premium of two dollars for a beautiful design of cut Flowers, and one dollar for a stand of Hyacinths, to Peter Raabe.

By the Committee on Fruit. For the best six specimens of Pears (St. Germain,) and the second best (Easter Beurre,) to Thomas Hancock. For the best Apples, 1 dozen, (Newtown Pippins,) and for the second best do. (Hollow Core,) to John Perkins. The Committee notice a jar of fine Strawberries from Buenos Ayres, (uncultivated) presented by Dr. W. D. Brinckle, and a basket of very beautiful Strawberries from the green-house of Caleb Cope.

By the Committee on Vegetables. For the best display, and the second best display, by market gardeners, to Anthony Felten. For the best and for the second best display of ditto, by amateurs, to B. Daniels, gardener to Caleb Cope. For the best Mushrooms, one dozen, to the same.

A communication from the Cincinnati Horticultural Society, was submitted requesting the influence (if the Society concur) for the adoption of such modification of the Post Office laws, as will enable those persons engaged in Horticultural pursuits, to transmit by mail, seeds, grafts, &c., at a rate of postage not exceeding that of newspapers.

THOMAS P. JAMES, *Rec. Sec'y.*



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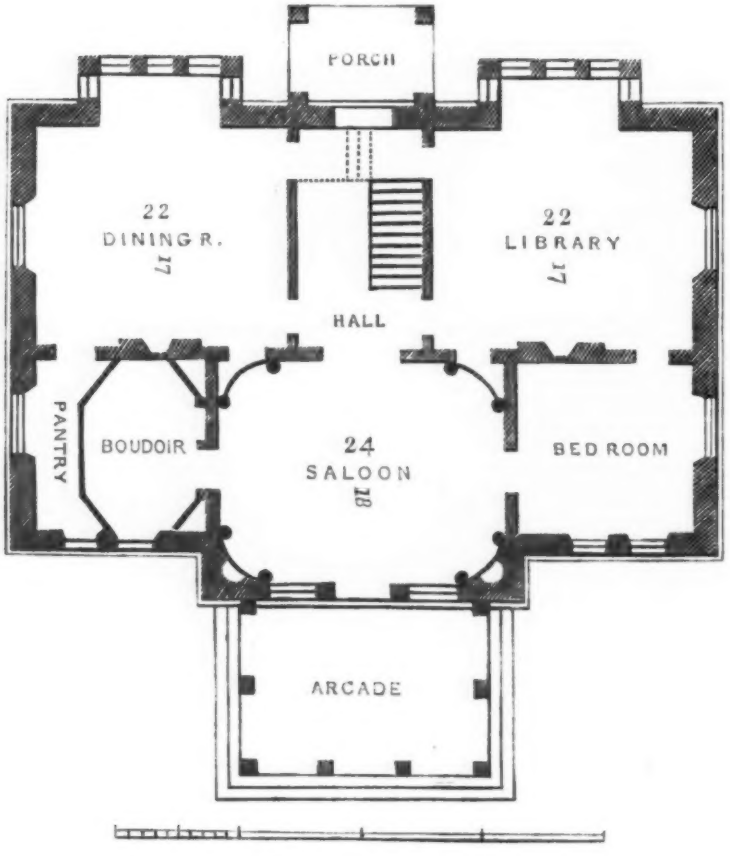

PRINCIPAL FLOOR.